

**A CULTURAL RESOURCE INVENTORY
OF 13 PROPOSED WATERFOWL PONDS
AND A SAMPLE OF THE PRAIRIE DOG ARM,
HARLAN COUNTY LAKE, NEBRASKA**

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Abstract

This report documents the results of an archaeological survey of 520 acres of land adjacent to Harlan County Lake, Nebraska. This study area included 13 proposed waterfowl ponds equalling 160 acres and a 12 percent stratified sample of the Prairie Dog Arm equalling 360 acres. Archaeological survey included 100 percent surface inspection with subsurface testing being done in the form of shovel tests and formalized 1 x 1 meter test pits.

A total of six archaeological sites and eight isolated artifact occurrences were recorded, including materials from Paleo-Indian, Archaic, Woodland, Upper Republican, White Rock and Dismal River uses of the area. Although six habitation sites and four temporary camps were located, none were recommended for nomination to the National Register of Historic Places because of their apparently disturbed nature. In situ archaeological data is not expected to be present at any of the recorded sites.

Site locational information was used to predict that the majority of the sites that may exist in unsurveyed areas of the Prairie Dog Arm should be expected on the first terrace and close to available water. Additional, but less intensively utilized site areas may also be expected in the bottom lands and on the uplands. Management recommendations include survey of uninventoried first terrace locations and monitoring of land disturbing activities on the first terraces, bottom lands and uplands.

CHAPTER 1

BACKGROUND INFORMATION

Introduction

The purpose of this study has been to locate, document, describe and evaluate all archaeological resources within the boundaries of 13 proposed waterfowl ponds and a sample of land surrounding the Prairie Dog Arm of Harlan County Lake, Nebraska. All field work, analyses and report preparation were completed according to the scope of work as included in work purchase order DACW41-82-M-1223, Kansas City District, Army Corps of Engineers. Field work was accomplished by the principal investigator, Joe Watkins accompanied by James Briscoe between May 15 and 23, 1983. Although none of the located sites were recommended for nomination to the National Register of Historic Places, valuable information about site locations was recovered which allowed previously published site location predictive models to be evaluated and allowed the formulation of a specific site location model for the Prairie Dog Arm of Harlan County Lake. Based on this model, recommendations for further archaeological activities in the unsurveyed portions of the study area have been presented.

All analyses, interpretations and report preparation, with the exception of final editing, were completed by the principal investigator. A pre-fieldwork literature search and consultation with the Nebraska State Historic Office and the Nebraska State Historical Museum was conducted by Dr. Bruce Bradley and a research design, which has subsequently been incorporated in this report, was written by Cynthia S. Bradley.

Project Description

This study involved an intensive, on-the-ground survey of approximately 520 acres, with limited testing, to determine the number of prehistoric and historic resources, their areal dimensions, temporal periods, cultural and scientific importance, and potential eligibility for the National Register of Historic Places. Based upon the above criteria, appropriate mitigation plans for the potentially eligible sites were recommended.

This cultural resource survey was carried out in Harlan County, Nebraska on lands adjacent to Harlan County Lake which are owned by the U.S. Government and controlled by the U.S. Army Corps of Engineers, Kansas City District. Thirteen proposed waterfowl ponds, totaling 160 acres, and 360 of the 3,018 acres comprising the Prairie Dog Arm of Harlan County Lake were inventoried (Figure 1).

Work on this study has been called for under the National Historic Preservation Act of 1966 (PL 89-665) and is authorized for funding under Public Law 93-291. This survey and its report constitutes compliance with Executive Order 11593 "Protection and Enhancement of the Cultural Environment" (15 May, 1971), Section 2(1) and Section 110 of the National Historic

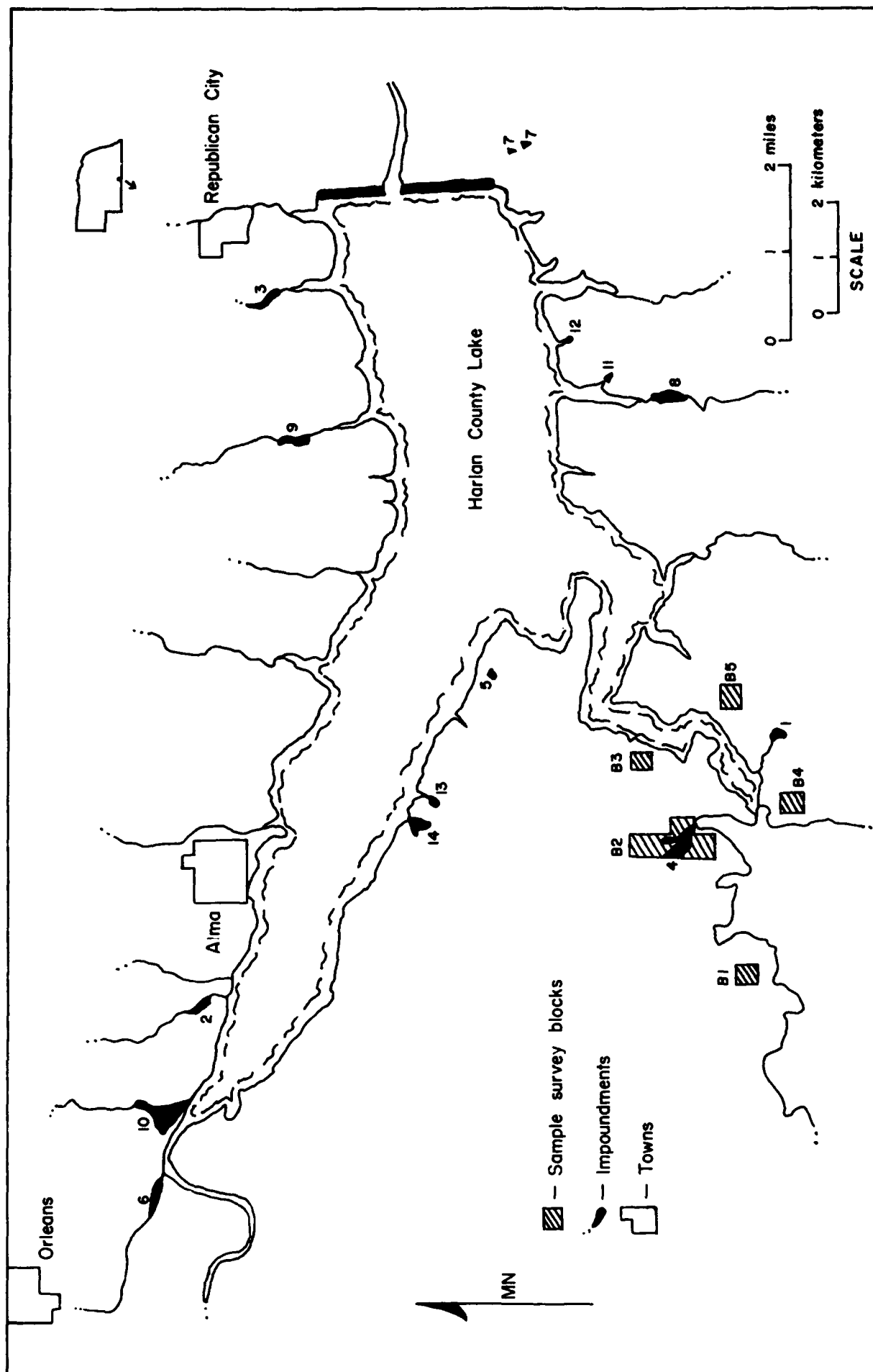


Figure 1. Project Location Map showing areas of survey

Preservation Act. Recovery of data and cultural material was in accordance with the proposed 36CFR66. This survey was performed by Complete Archaeological Services Associates (CASA), Cortez, Colorado, under contract no. DACW41-82-M-1223.

Project Areas

A total of thirteen proposed waterfowl ponds covering an area of approximately 160 acres have been identified for cultural resource inventory. Since the issuance of this contract, one pond has been deleted (number 11) and two have been added (number 13).

An additional 360 acres along the Prairie Dog Arm of the Harlan County Lake Project area were also included in the contracted study. The actual areas to be inventoried have been selected on the following basis. Only areas that have not been previously inventoried for cultural resources were chosen. Two basic factors have been taken into consideration: management needs and archaeological research needs. The areas selected incorporate both of these concerns. Management priorities have been focused on areas of ongoing or imminent adverse impacts, including the flood pool zone and recreation areas. Within the Prairie Dog Arm, only the flood pool zone required consideration. Archaeological research needs have been focused on localities where inventory may be most productive. Of primary concern was the location of cultural resources that contain contextual integrity. These areas are most likely to occur above the maximum flood pool area on high terraces and low benches. An additional consideration that has been taken into account is the present and predicted reservoir level.

Another consideration that has been used in the selection of the sample units is the practical application of cadastrally definable boundaries. This is useful when defining the specific areas inventoried and will enable future inventories to be accomplished without locality complications. With this in mind, sample units of 40 acres were selected and located within established 1/4 of 1/4 sections.

The selected units incorporate a number of physiographic settings, including high terraces, low benches, flood plain margins, and small tributary drainages. Every unit except number five includes a percentage of the flood pool zone. Units one, three, four and five were selected in areas where sites have not been reported but in which they might reasonably be expected to occur, thus maximizing data recovery. Unit number two was selected to give a wide coverage of one of the major tributaries of Prairie Dog Creek, which should allow more specific site location relationships to be discussed. In addition, it is expected that the multiple settings should allow us to locate a number of different site types (both cultural-historical and functional).

Project Setting

Harlan County Lake is located in extreme south-central Nebraska at the confluence of the Republican River and Prairie Dog Creek, the two major drainages of the region. Both drainages (excluding the present lake) flow through low, mature floodplains in well developed valleys.

The region is located in the Loess Plains section of the Central Great Plains. The Loess Plains is generally a broad flatland, deeply dissected around the major drainages by numerous smaller runoff washes and small streams. The major tributaries feeding the Republican-Prairie Dog system include Walnut Creek, Crystal Creek, Bone Creek, Patterson Creek, Mill Creek, Methodist Creek, Cook Creek, Rope Creek, Flag Creek and Sappa Creek, in the reservoir area. These tributaries are the only year round feeders to the Republican-Prairie Dog system and have similar but equally well-developed courses dissecting the uplands.

Soils in the project area include Coly, Nuckolls, Hobbs, McCook, Holdrege and Uly associations. These soils are Holocene developments from loess parent materials and are pedologically very similar (Mitchell, Bowman and Yost 1974:2) deposits of fine silty loam over Peoria Loess. Recent alluvial deposits of Broken Alluvial Land silt loam occurs throughout the beds and floodplains of the major streams, Prairie Dog Creek and Republican River, as silt-sorted sediments of the above associations and loess. All of these soils are highly permeable, absorbing water and draining quickly. Silt in the soil forms a hard crust when dried, which resists erosion and is extremely fertile.

The Niobrara and Ogalalla Formation lithological units are common near the reservoir. The Ogalalla contains opaque white chert and coarse-grained green quartz or quartzite (Miller and others 1964:10-16) of suitable quality for knapping purposes. Formational beds were not observed around the lake area during the survey. Outwash or secondary deposit cobbles of extremely fine-grained green quartzite and coarser grey-green and grey-brown quartzite were noted along the gravelly terraces near Alma. The coarser quartzite materials were identical to material located in Pleistocene outwash deposits throughout the Southern Plains (commonly known as Ogalalla quartzite in Oklahoma and Potter chert in Texas).

The Niobrara Formation occurs as limey loess in the hills west of the lake and contains a tan to brown silicified chalk variously known as Republican River jasper (Thomas 1975) and Niobrara jasper (Briscoe 1979).

The chief source area for Niobrara jasper mentioned by Wedel (1961:129) near Beaver City was visited and samples were collected. Materials from the outcrops in this area include light to dark brown chert, a white variegated chert and dark red cryptocrystalline material of high knapping quality. Numerous exposures of surface gravels of these materials were located along the south side of the lake during the survey. Small but knappable cobbles of petrified wood and chalcedony were also noted in the gravels.

The area around Harlan County Lake today is a mixture of farmland and short-grass prairie. Prior to Euro-American habitation, however, the area was a transitional zone between the short-grass prairies to the west and the long-grass prairies to the east (Wedel 1961:36).

The short-grass prairies, characterized by the grama and buffalo grasses, provided an immense natural pasture for bison and antelope. These plants are shallow-rooted, and are capable of rapid growth during the spring rains. When the moisture is no longer available, they pass into a dormant stage, cure, and provide winter forage for the above mentioned animals.

To the east, the tall grass prairies are composed primarily of bluestem, wheat grass, and other bunch grasses. These areas also supported large herds of bison, and the increased rainfall of the area provided more available moisture for village farming peoples.

Throughout the area, tree growth can be closely correlated with the availability of more permanent water supplies along rivers and creeks which flow through the dissected loess plains. Willow, cottonwood, and oak were the most common of the tree species encountered in the bottomlands and areas immediately adjacent to the small feeder streams of the Republican River.

The upland areas, as mentioned above, are primarily prairie grass. Also present on the rolling hills were large patches of yucca, prickly pear cactus and wild gourds.

This area once supported large herds of bison, the staple of the nomadic occupants who utilized this area before the Euro-American settlement of the late 1800's. Also present in the area, and supported by the lush grasses and mixed forest along the floodplains were deer and antelope. Wolf, coyote, and badger were the major predatory species of the area, and may have competed with the prehistoric inhabitants for available food. Migratory birds also used the area in their annual migrations across the continent, and were probably also utilized to supplement the diet. In addition to these resources, riverine animals were also available to the aboriginal inhabitants of the area.

Biotically the area is typical of the Central Plains east of the 20 inch isohyetal line south of the 120 frost-free-days line. A mixed-grass prairie occurs throughout the upland while mixed timber galatia and understory predominate along the major streams. The region supports, today as it did in earlier times, a range of large herbivores and smaller game. Refer to Wedel (1961:34-35) for more details.

Cultural History

Previous research in the project area has produced information on four major periods of prehistoric and protohistoric occupation as well as the historic period. The earliest is the Paleo-Indian Period which lasted from approximately 11,500 years ago to about 6500 BP. Material from this period

has been limited to isolated finds of Eden and Plainview points, which represent the lower end of the period, in southwestern Nebraska (Grange, 1980). There is some evidence of Paleo-Indian occupation at sites 25HN57, 25HN110, and 25HN138 (Roetzel, 1982). From information derived from surrounding areas, this cultural period was characterized by intensive hunting of Pleistocene megafauna augmented by some gathering (Frison, 1978).

Following the Paleo-Indian Period is the Plains Archaic Period, which began with the Logan Creek B Focus. Beginning around 6500 BP, this period continued until the beginning of the Christian era. Findings from an Archaic site in the Red Willow Reservoir (now Hugh Butler Lake), near McCook, Nebraska and other sites in the general area suggest that this culture changed its emphasis from hunting big-game to hunting smaller animals coupled with a more organized, intensive exploitation of wild plant resources. These changes were due to the reduction in numbers and alterations in the migratory patterns of the Pleistocene megafauna brought about by the Altithermal climatic shifts. Archaic period sites contain nebulous house floors, hearths, and a scattering of stone tools, worked bone, and ground stone. Sites of this period are also scarce in the survey area with only one, 25HN146, previously reported.

The next period, the Plains Woodland (ca A.D. 1- A.D. 1000), is better represented in the area of Harlan County Lake. Cultural remains indicate that these people were primarily hunter-gatherers who supplemented their economy with some horticultural activities. They generally confined themselves to the small, wooded creek valleys, and their habitations are usually closer to the bottomlands than later Plains Village Sites (Pepperl and Falk, 1979). Although the remains of corn and squash have been recovered (Wedel, 1961) it is unclear when they were introduced or how widespread their cultivation was. Common characteristics of Woodland sites are small, temporary shelters, ossuaries, and the use of grave goods such as shell bead necklaces. These sites contain the first pottery found in the region which is thick, cord-roughened, and often calcite tempered. Vessels generally have a long, narrow shape with a slightly flared rim and a pointed bottom. Among the Plains Woodland sites recorded in the project area are 25HN1, 25HN32, 25HN40, 25HN50, 25HN130, and 25HN145.

The Plains Village Period (ca. A.D. 900-Historic times) is the best documented period in the central Plains and in the project area. This culture is represented by more extensive and permanent settlements. Sites were on terraces close enough to the bottomlands of both major and minor streams for convenient farming, but below the more inhospitable uplands with its often scorching winds. Hunting and gathering were still a significant factor in the subsistence economy, but farming took on a much larger role. Within the study area, three subgroups of the Plains Village period have been described: the Upper Republican Aspect (A.D. 1000-A.D. 1400), the White Rock Aspect (A.D. 1500-A.D. 1600), and the Dismal River Aspect (A.D. 1600-ca. A.D. 1725) (Pepperl and Falk, 1979).

The Upper Republican Aspect sites are by far the most numerous and include both the Lost Creek Focus and the Medicine Creek Focus. Upper Republican sites are characterized by substantial semi-subterranean

earth-covered dwellings, usually containing subfloor storage pits. The pottery was large, round-bottomed jars, with flared rims in the early Upper Republican in some regions (Grange, 1980; Kivett, Pers. Comm. in Grange, Ibid). Most common, however, was the thick braced or collared rim which was often incised on the outer surface. Exterior surface treatment varied somewhat, but was normally cord-roughened. Typical of the Upper Republican Aspect sites in the survey area are 25HN11, 25HN55, 25HN134-137, and 25HN173.

During late prehistoric times, but before the arrival of the Euro-Americans onto the Plains, the Plains Village tradition is characterized by concentrated, larger villages located along the major streams in the more eastern part of Nebraska. This cultural unit is labeled the White Rock Aspect. The earlier rectangular earth lodges were replaced by those with circular floor plans. Horticulture became more prevalent, although seasonal hunting of the bison herds in the western part of Nebraska continued. The Republican River Valley was one of the better hunting grounds in the Central Plains and was frequented by the Pawnee, Sioux, Cheyenne, Arapahoe, and Apache, although no diagnostic artifacts from these groups have been found in the area (Dunlay, 1979). Two sites in the survey area (25HN39 and 25HN45) are believed to be temporary hunting camps of these nomadic hunters.

The Dismal River Aspect is considered to be the "high-water mark in the Apache occupation of the Central Plains" (Wedel, 1961:114) before the acquisition and reliance upon the horse. This period continued through both protohistoric and early historic times, although no sites have been dated after A.D. 1725. These sites are quite ephemeral as dwelling structures were temporary. These sites can be identified by a thin, hard, dark pottery which is usually undecorated. The clay from which this pottery was fashioned contains large amounts of mica and is reminiscent of the utility wares of the Northern Rio Grande frontier pueblos (Ibid). White Cat Village (25HN37), located on the north bank of the Prairie Dog Arm, is the only Dismal River site excavated in the area, although sherds have been found at 25HN136 (an Upper Republican site). Evidence of preferred habitation locations is incomplete for this period.

Few historic sites have been reported in the study area, although two iron projectile points of unknown affiliation have been recovered from sites 25HN16 and 25HN114. While it is possible that Spanish explorers or traders came into the general region in the 17th and 18th centuries, there is no archaeological evidence to support this. It was not until the 1870's that Euro-Americans settled the area. It was bypassed to the north by the Oregon, California, and Mormon Trails which followed the Platte River, and to the south by the Santa Fe Trail. Individual trappers or traders have left no identifiable remains in the survey area. In the early 1870's the communities of Alma, Orleans, and Republican City were founded. Republican City has since been relocated about two miles to the north because of the creation of the lake.

Previous Research

Until 1930, research in the Harlan County Lake Project area was confined to the work of private individuals, few of whom recorded or reported their findings. In that year, the Nebraska State Archaeological Survey began fieldwork in the Upper Republican River Valley, which resulted in the excavations of two small ossuaries (25HN1 and 25HN5). Both of these sites are within the Harlan Lake area. Based upon the work at these sites and that at 25FR3, a site 3.5 kilometers east of the Harlan County dam, W.D. Strong (1933) defined the "Upper Republican Culture" as a group that represented a successful Plains adaptation. This interpretation was in direct contrast to the long held belief that the Central Plains was a wasteland virtually devoid of habitation by prehistoric people. In 1931 A.T. Hill conducted an excavation of another ossuary at 25HN2, also within the lake area. Archaeological investigations were discontinued in the area until 1946 when, under the auspices of the Inter-Agency Archaeological Salvage Program, the Smithsonian Institution River Basin Survey began its' investigations. Waldo Wedel was engaged to do an intensive survey of the Harlan County Reservoir Project to determine the impact of the proposed construction on the cultural resources. During this survey 23 sites were located with five sites undergoing limited testing and one site (14PH4) requiring a major excavation.

From 1948 to 1952, all archaeological surveys or excavations in the lake area were conducted by the University of Nebraska field school. Nine new sites were located, with major excavations conducted on eight new or previously located sites. Two sites were investigated by limited subsurface testing. White Cat Village (25HN37) was excavated by Champe (1949:285-292). This Dismal River Aspect site is the only site of this time period to undergo a major excavation in Harlan County. Following the work of the field school, several reports and publications on the Dismal River Aspect (Gunnerson, 1950, 1960, 1968), the Blue Stone Focus of the White Rock Aspect and the Upper Republican Aspect (Roll, 1968) were generated.

No other field work in this area was conducted until the reappraisal of the known site areas by the National Park Service, Midwest Archaeological Center, in 1972. This was followed in 1977 by a U.S. Army Corps of Engineers contract with the University of Nebraska-Lincoln to develop a management plan for cultural resources within the Harlan County Lake area. This study resulted in the location of 13 new prehistoric sites. Also in 1979, Impact Services, Incorporated of Mankato, Minnesota performed an intensive archaeological survey and testing program of the lake shoreline. Their work resulted in the identification of 64 new sites.

CHAPTER 2

RESEARCH CONSIDERATIONS

Research Limitations

The nature of this study limited the possible research goals that could reasonably be expected to be fulfilled. The primary limiting characteristics were the size of the sample and the predetermined location of the 31 percent of the project area (waterfowl ponds) and the size of the sample of the Prairie Dog Arm (12 percent). Although of sufficient size to allow statements about specific site locations, it did not by itself allow the formulation of reliable predictive models or regional syntheses of settlement patterns, subsistence practices, or inter-regional contacts.

Due to the location of the proposed waterfowl tracts in the bottomlands of tributaries, it was expected that few in-place cultural resources or isolated occurrences would be located. According to Pepperl and Falk (1979:10, Table 39) no sites were found in these areas during their study and they projected that no sites would be located in such areas for the entire Harlan County Lake Project area. On the other hand, Roetzel's 1979 survey of the shoreline discovered that 62 percent of the sites found were situated on the present beach, which is for the most part the prehistoric first terrace of the Republican River (Roetzel 1982:132). Portions of the shoreline of the 360 acres of the Prairie Dog Arm were selected to determine if Roetzel's findings are typical for this area as well. Based on both Roetzel's and Pepperl and Falk's reports, it was probable that some sites and isolated occurrences would be found during the survey of the Prairie Dog Arm. In sum, because of the physiographic situations of much of the survey areas, it was expected that a minimal number of cultural resources would be located, restricting the research possibilities of this project.

Several other factors detrimental to the location and identification of archaeological resources must be discussed in regard to the research limitations of the investigation. One is the limits imposed by a surface survey. Sites of the Paleo-Indian Period are generally covered by at least a few meters of soil, except where exposed by erosion. Archaic sites have been reported to be as deep as 7.5 to 12.0 feet (Grange, 1980) in a similar environment in southwestern Nebraska. Wedel (1961, Plate II) reports that even Woodland sites may be a few meters deep, although they are usually close the surface (Kivett, 1952). Subsurface testing in areas projected to contain sites may reveal their locations, along with careful examination of all cutbanks in the survey areas. However, it is possible that the erosional/depositional cycle of a riverine environment may prevent the location and identification of some sites. Even when discovered during testing, determination of the areal extent can be difficult. Plains Village sites, which are less deeply buried and which often contain more substantial architectural features, should be more obvious. However, due to the "depth factor", the recorded ratio of Plains Village sites to the earlier sites could probably project statistical information that is skewed.

Another factor that limits potential information which might be gathered by this survey is the effect of wave action on any shoreline sites. Roetzel (1982) noted that wave action, coupled with the fluctuating lake level, dispersed or occasionally destroyed the original integrity of the sites. In such cases, diagnostic architectural features such as house floors, hearths, or subfloor pits may be lost or rendered useless for information acquisition. Inter-site admixture may also be a problem in these disturbed areas.

Possible destruction or damage to shallow sites by modern cultivation techniques may hinder this study. A number of the proposed waterfowl ponds, No.'s 3, 7, 9 - 11, are or have been farmed in historic times.

Although the data generated by a project of this scope are restricted, when combined with the results of other work in the area a clearer picture of cultural-historical and subsistence utilization of the area may be developed.

Theoretical Orientation

Specific limitations to possible research questions that could be answered by this study have been discussed. In the context of these restrictions the research design proposed for this work focused upon the accuracy of the predicted site types and locations developed by Pepperl and Falk (1979:13-19, Tables 1 - 3, 7, 8 and 10). That study included predictions about site types, functions, affiliations, and locations. If their conclusions are valid it should be possible to predict the types and locations of sites which might be located during this project. It was therefore CASA's proposal that the research seek to test Pepperl and Falk's predictions and thereby substantiate, refine, or refute them.

CHAPTER 3

SURVEY METHODOLOGY

Definitions

Consultation with Mr. Richard Jensen of the Nebraska State Historic Preservation Office produced the following definitions of cultural resources which have been used for this project.

Archaeological Sites

An archaeological site is any location, at least 50 years old, that contains artifactual remains and/or features that indicate a sustained human utilization of the locality. This includes any locality or artifact concentrations (more than 40 per 25m) and/or any in-place features (fire hearths, cache pits, house floors, etc.) This definition was applied to all localities regardless of age or condition. All archaeological sites were recorded and given site numbers as discussed below.

Modern Sites

Any sites that are less than 50 years old, contain presently occupied dwellings, maintained roads, bridges, etc. were considered and labeled modern sites as opposed to archaeological sites. They were noted on the project maps and photographed whenever architectural features were present, however, they have not been included in this report.

Isolated Occurrences

An isolated occurrence is any locality, greater than 50 years old, that contains artifactual remains of a limited nature or a sparse concentration that does not indicate sustained human activity, or is not interpretable as to cultural affiliation or specialized function. Isolated occurrences most often consist of sparse scatters of artifacts (less than 40/25m) or of individual isolated artifacts. These were plotted on maps and described but did not have site forms completed or site numbers assigned to them.

Inventory

Field investigations for each survey area began with visual and map familiarization of each tract from a nearby vantage point. A two-member crew visually inspected the surface of each inventory area by walking parallel zig-zag transects across the areas with a maximum spacing of ten meters. Closer spacing was maintained whenever ground visibility was restricted. In addition, areas of special exposure such as cutbanks, beaches, etc. underwent more intensive visual inspection. A field log was maintained which contained observations about the approximate percentage of surface visibility in all surveyed areas.

Limited shovel tests were dug at periodical intervals of no less than 50 meters, where the ground surface was unobservable and in areas where subsurface strata were expected or unobservable through bank cuts. The limited shovel tests varied from shovelwide to .5 x .5 meter squares excavated through the topsoil and upper portions of the underlying loess deposits. More formalized meter squares were excavated in a like manner when a need to examine located sites was deemed necessary by the surveyors. Bank cuts consisted of trowel or shovel planeing through exposed strata along steep slopes and in erosional areas.

Once a site was located a piece of flagging was placed by the first artifact or feature located. The area was then walked in a circular or criss-cross fashion until all surface indications were located. Additional flagging was used as needed to adequately mark the site. Subsurface tests and bank cuts were then dug as deemed necessary. After the limits of each site were established by the visible extent of artifact and/or feature distributions, a main core area and peripheral areas were identified, with the main core area defined as that portion containing a concentration of artifacts exceeding 40/25m . The peripheral area included all artifact distribution (less than 40/25m) adjacent to the main core area. When a site was located, either by surface visibility or in test units, areas of poor exposure because of vegetation or deposits were tested using shovel and/or 1 x 1 meter test units. These units were selected to best identify site boundaries based on a case by case assessment.

In addition to photography, each site was mapped. Included in this map were the proposed site limits, features, diagnostic artifacts, and artifact clusters. Unless unusual, non-diagnostic artifacts were not pin-point mapped, but were mapped as being of a general artifact scatter. All measurements were made using the metric system.

Collections

Collections were made from each site in such a manner that a representative sample of artifacts was obtained without eliminating evidence of the site location, size or cultural affiliation. This is very important for future studies and resource management decisions. Only diagnostic artifacts were collected from sites with the majority of materials left in situ for future research. No collections were made from sites if it was felt that such information could not be used or if it would constitute the removal of all surface indications. No collections were made from 25HN65 since the area was to be investigated by the American Resources Group, Inc. research team at a later date. A small sample of site materials was, however, collected by Corps personnel during a revisit to the site.

Subsurface Testing

Subsurface testing was limited to three activities: shovel tests, 1x1 meter test units, and profiling of cutbanks. The former were selectively applied when either: the surface of the ground was unlikely to exhibit

existing subsurface resources because of vegetation cover or the presence of a dust mantle (Wedel, 1941); or when cultural remains were noted and the extent, depth, and nature of the deposits needed to be determined. These units were selected while in the field in locations which the Principal Investigator deemed most propitious for either locating sites or gaining additional information in order to determine site limits, significance, and NRHP eligibility. Cutbank profiling was done wherever they existed and a clarification of the stratigraphy was necessary.

CHAPTER 4

SURVEY RESULTS AND RECOMMENDATIONS

This section of the report describes the results and findings of the cultural resource inventory conducted on 13 proposed waterfowl ponds and the sample survey blocks along Prairie Dog Creek. Each impoundment and sample survey block is individually described in terms of location, soils, landform, and vegetation. Special inventory procedures for each area are discussed and the cultural resources found, if any, are listed.

Each site and isolated occurrence is then described with each description accompanied by a site map. Photographs are presented of selected sites and line drawings have been prepared on any significant artifacts recorded.

Statements concerning eligibility of each site and isolated occurrence are presented and, finally, recommendations covering each impoundment and sample survey block are given.

Impoundments and Sample Blocks

Impoundment No. 1.

This study area is located along the upper reaches of an unnamed tributary to Prairie Dog Creek in an area of deeply dissected upland plains. Soils in the area are thin deposits of Nuckolls-Uly silt loam topsoils (4 to 10 cm deep) over loess and thin lenses of shale. The stream channel has cut wide steep banks along most of its course which has caused considerable erosion along the terraces.

The ground surface was heavily covered by grasses, with visibility averaging less than five percent. Because of the ground cover, shovel tests were placed along the banks of an intermittent stream gully, and on a point of land between the stream and a creek bed which was dry due to stock-pond construction. Cutbanks along the gullies were also examined in order to increase the likelihood of discovering any buried archaeological deposits.

No sites or other indications of cultural resources were located in the vicinity of this impoundment.

Impoundment No. 2.

This impoundment is located along an unnamed tributary to the Republican River at the edge of its confluence with the Republican River Valley. At this point the stream flows through a mature bed into the high terraces overlooking the river valley to the south. Soils are Broken Alluvial Land deposits of deep stream silts more than 50 cm deep.

The ground cover in this impoundment was mixed grasses, small shrubs, and forest undergrowth in the northern half and along the creek, while the

southern portion of the impoundment area was primarily grasses. Surface visibility ranged from 30-40 percent in the northern half, to less than 10 percent in the southern area.

Shovel tests were used in the southern portion, in areas where the forest was not present. The grasses which hindered surface visibility were thickest in this part, necessitating the use of shovel tests placed approximately fifty meters apart. No cultural material was encountered in any of the shovel tests.

No sites were found in the impoundment proper but a single site, 25HN65, was located along a high ridgespur terrace to the west.

Impoundment No. 3.

Impoundment No. 3 is located along the course of an unnamed tributary to the Republican River about 1 km above its junction with the Republican River Valley. The stream flows through a mature bed in a developed drainage. Soils are predominantly Broken Alluvial Land deposits of deep stream silt (more than 80 cm deep) in the channel proper with low terraces of Nuckolls-Uly silt loam (15 to 30 cm deep) over loess along its margin.

Surface visibility in this area averaged less than 10 percent, due to a luxuriant growth of grasses. The grass made survey of the area difficult, as it was necessary to use shovel tests to search for cultural resources in most of the area. Shovel tests were placed approximately forty meters apart, and were augmented by the examination of the stream channel cutbanks and areas clear of vegetation. One area on the western edge of the proposed impoundment was a harvested cornfield, with visibility approaching 100 percent.

No sites or other indications of cultural resources were located.

Impoundment No. 4.

This study area is located along the confines and upper extensions of two branches of an unnamed tributary to Prairie Dog Creek just above its confluence with Prairie Dog Creek. The seasonal tributary flows through deeply dissected portions of the high terrace marking the northern edge of the Prairie Dog Creek stream valley and is bordered by numerous elongated ridgespurs. Soils are thin (5 to 10 cm) to deep (30+ cm) deposits of Uly silt loam over loess.

Surface visibility in Impoundment 4 was approximately 20 percent, with the ground cover of short grasses broken by occasional bare patches. Shovel tests were only occasionally used, as the presence of minor benches and terraces above the intermittent stream provided ample information about sub-surface deposits. Cattle trails and erosional features were also examined throughout the area, as were rodent and mammal burrows and backdirt piles.

An isolated occurrence, No. 7, and one archaeological site, 25HN78, were located near the impoundment.

Impoundment No. 5.

The impoundment is located along a deep wash cut in the high terrace above the south edge of the Republican River Valley. The margins of the wash are widely eroded with well rounded to steep banks. Soils are Uly silt loam deposits (10 to 30+ cm deep) over loess.

This area was covered in grass and yucca, with approximately 10 percent of the surface visible. Shovel tests were placed along the terrace above an intermittent stream which is now dry due to pond construction upstream with negative results. Numerous rodent-burrow backdirt piles were also examined with no evidence of cultural materials being encountered.

No sites or other indications of cultural resources were located within or in the vicinity of this impoundment.

Impoundment No. 6.

Impoundment 6 is located along Flag Creek just above its confluence with the Republican River. This area is situated on the north floodplain of the Republican River Valley. Soils are deep deposits of McCook loam (50+ cm deep) and flood silts. A low terrace borders Flag Creek on the north which in turn is bordered on the north by the high terrace line of the Republican River Valley.

The ground surface visibility averaged 35 percent, with most of the area surrounding Flag Creek supporting a mixed forest. The area examined within the forest was not covered by the thick growth of grasses characteristic of most of the other impoundments. Shovel tests were rarely needed, as cutbanks of the creek and bare spots provided more than adequate information.

A single prehistoric site, was located about 300 meters northwest of the impoundment area. The site was not examined except in passing because the area was in wheat which would have been damaged by the survey.

Impoundment No. 7.

Impoundment 7 is located along the lower portion of an unnamed seasonal tributary to the Republican River just upstream from the southern edge of the river valley. The area is a markedly dissected plain showing a great deal of slope erosion. Soils in the stream bottom are deep deposits (50+ cm) of Broken Alluvial Land silt loam and shallower (10 to 30 cm) deposits of Uly silt loam over loess along the terraces.

The ground surface of the two areas of this impoundment was covered by short grasses. Shovel tests were used within the limits of the proposed impoundments, and were augmented by examination of rodent burrows, erosional surfaces, and two back-hoe trenches dug by an unknown person for an unknown purpose. No cultural materials were recovered in any of these tests.

Isolated occurrence No. 1 was located near the southern area of the impoundment.

Impoundment No. 8.

The proposed impoundment is located on Bone Creek along a well developed portion of the stream which deeply dissects the uplands above the Republican River Valley. The stream flows through a mature bed in a wide bottomland. Soils along the channel are deep (50+ cm) Broken Alluvial Land silt loam deposits and Uly silt loams (30+ cm deep) over loess along the low stream terraces flanking the channel.

Ground cover in this impoundment averaged 90 percent, with visibility hindered by grasses, nettles, and short shrubs. Shovel tests were utilized across the length of the study area and cutbanks were also examined. No evidence of sub-surface cultural deposits were found to be present.

No sites were located in this impoundment. A small quantity of knappable size cobbles of Niobrara jasper was noted along the terraces and in the roadcut just south of the project.

Impoundment No. 9.

The impoundment is situated along a wide, developed portion of Mill Creek about 1.5 km north of its juncture with the Republican River Valley and floodplain. Mill Creek at this point flows through a mature bed with well developed bottomlands and low terraces bordering it. Soils are deep (50+ cm) Broken Alluvial Land silt loam in the channel area and Nuckolls Uly silt loam deposits (20 - 40 cm) along the low terraces.

The northern portion of the study area was heavily forested, with ground visibility ranging from 40 to 50 percent. Shovel tests were not needed, since sparsely vegetated areas and erosional features were frequent. The southern area however, was covered in grasses and shrubs, and required shovel tests. These tests, placed at intervals of approximately 40 meters, failed to reveal any cultural materials or evidence of sub-surface cultural deposits. Rodent burrows were also prevalent in this southern area, and their backdirt piles were examined.

Two isolated occurrences, numbers 3 and 4, were located near this impoundment.

Impoundment No. 10.

Located along a wide lowland at the confluence of Rope Creek and the Republican River and extending northward along Rope Creek where it cuts through the high terraces bordering the Republican River Valley, the area is characterized by a wide lowland flanked by wide, high terraces and a lower stream terrace development along Rope Creek. Soils are deep deposits (50+ cm) of Broken Alluvial Land Silt loams in the bottomland flanked by shallower (10 - 30 cm) deposits of Hobbs-McCook silt loams on the terraces.

At the time of the survey, Rope Creek was flowing over its banks. Therefore much of the area to be inundated by the project was already under water. That portion of the area not flooded was covered by grasses and forest duff (fallen leaves and branches). Ground visibility was low (less than 20 percent average), and shovel tests were utilized. No cultural material was found in any of the shovel tests. Rodent burrows and cutbanks were also checked for evidence of sub-surface deposits of cultural material without success.

Two prehistoric sites, 25HN66 and 25HN74 were located near Impoundment No. 10.

Impoundment No. 11.

Located in a small dissection of Bone Creek, the area is characterized by a wide steep-walled wash and the seasonal drainage of Bone Creek. Soils include shallow marshy deposits (10 - 13 cm) in the wash bottom over Uly silt loam and caliche and deeper deposits (up to 30 cm) of Uly silt loam and loess on the terraces. Small caliche concretions and knappable-sized cobbles of Niobrara jasper were observed on the terrace slopes.

Most of the area to be inundated by the proposed construction project was already under floodwaters from Harlan County Reservoir. However, the areas surrounding the marsh deposits and standing water, as well as a knoll of higher land in the flooded area, were subjected to shovel tests without the discovery of cultural materials.

No prehistoric or historic sites were found.

Impoundment No. 12.

This impoundment is located in a steep erosional dissection of the high terrace along the south edge of the Republican River Valley. Soils are thin deposits (10 to 20 cm deep) of Coly silt loam over 1.5 to 2 meters of loess lying on shale. Erosion through most of this area is dramatic, owing in part to the Harlan County Lake. A quantity of knappable sized cobbles of Niobrara jasper was observed along the more eroded areas.

Most of the impoundment area was covered by floodwaters from Harlan County Lake, thus limiting the amount of area surveyed. The unflooded portions of the proposed impoundment were examined, with ground visibility averaging 30 percent. Much of the area was covered by small willows and grasses, although a portion was bare, eroded shale.

A bifacially-trimmed cobble of Niobrara jasper was located on the surface of a band of shale which had been exposed through extensive erosion. The artifact was designated Isolated Occurrence No. 2, and drawn in the field. No other artifacts or cultural materials were present.

Impoundment No. 13.

This study area includes two small impoundments located in deep wash dissections of seasonal streams along the high terrace bordering the southern edge of the Republican River Valley. The eastern impoundment is located in a narrow steep wash area with deep deposits of Uly silt loam (10 to 30+ cm) over loess, while the western impoundment is located in a wider, more developed wash with thinner deposits (10 to 20 cm) of Coly silt loam over loess.

The presence of standing water in the two portions of the proposed impoundment areas hindered total coverage of the area.

Ground visibility was obscured by grasses and averaged between 10 and 20 percent. Erosional features and bare patches of ground made up the visible portions. However, the most likely areas of habitation, the small terraces and flat areas surrounding the drainages flowing into Harlan County Lake were subject to shovel testing. Rodent-burrow backdirt piles were also examined. No evidence of cultural resources were present in any of the areas tested or examined.

No archaeological sites were located at either impoundment area.

Sample Survey Block No. 1.

This 40 acre block covers a wide ridgespur section of the high terrace bordering the floodplain valley of Prairie Dog Creek. Soils include shallow to deep deposits of Holdrege and Uly silt loams over loess.

The surface of the Sample Survey Block was predominantly grasses in the upland ridge area, and forest in the lower elevations. Ground cover averaged 40 percent, with the majority of the area within forest cover. Shovel tests were used in the grassland portion; rodent burrow and backdirt piles were examined for cultural material; cutbank and erosional features were investigated. No evidence of cultural utilization of the area was discovered.

No sites were found in this survey block.

Sample Survey Block No. 2.

This 200 acre block covers a wide portion of the high and low terraces above Prairie Dog Creek and a portion of the loess plain uplands beyond the stream terraces. Impoundment No. 4 is located entirely within this survey block. Soils include predominantly Uly-Coly silt loams with Coly-Nickolls silt loams along the higher terraces and ridgespurs.

Ground visibility in the block ranged from 5 to 95 percent, with the average falling somewhere around 30 percent. Ground cover ranged from riverine forest vegetation to short grasses to plowed and harvested agricultural fields. In the areas where the ground surface was obscured by vegetation, shovel tests were utilized to determine the presence or absence of sub-surface deposits. In other areas, cutbanks, rodent burrows, and bare

ground were examined.

Two Isolated Occurrences No. 7 and No. 8, and one historic complex, 25HN78, were located in the survey block.

Sample Survey Block No. 3.

This 40 acre block includes a large, wide ridgespur above the Prairie Dog Creek floodplain and a portion of the floodplain adjacent to an old oxbow in the stream. Soils include predominantly Uly silt loam along the terrace and Coly silt loam along the floodplain. Broken Alluvial Land flood silts occur in the seasonal oxbow and Holdrige-Coly associations on the oxbow terrace.

Ground visibility ranged from 5 to 90 percent, with the average approximately 40 percent. The block contained plowed agricultural fields, unplowed short grass prairie, and riverine forest. The plowed portions of the block accounted for about one-fourth of the total area, the forest portion accounted for approximately one-fifth of the area, and the remaining land was covered in short grasses. Shovel tests were used in the grass-covered areas in conjunction with examination of rodent burrows; areas in the plowed fields were easily surveyed; the area of the block covered by forest was surveyed through a combination of shovel tests where the grass was high and surface examination. Cutbanks were also examined in order to gain an understanding of sub-surface deposits.

Two archaeological sites, 25HN76 and Isolated Occurrence No. 5, were located in the survey block.

Sample Survey Block No. 4.

This 40 acre block is located along the southern edge of the Prairie Dog Creek floodplain and adjacent to Walnut Creek near the confluence of the two streams. The area includes a portion of the floodplain, low and high terrace systems and secondary tributaries to Prairie Dog Creek. Soils are predominantly Hord-Hall silt loam associations in the floodplains and on the lower terraces with Nuckolls-Uly associations on the higher terrace.

Ground visibility in this survey block averaged approximately 40 percent. The eastern half of the sample block consisted of a plowed field, with the remainder covered by short grasses. The plowed field was examined visually, while shovel tests were placed in the areas covered by the short grasses. Rodent burrows were examined throughout the area for additional information.

One prehistoric site, 25HN77, and Isolated Occurrence No. 6, were located in this survey block.

Sample Survey Block No. 5.

This 40 acre block includes a flatter portion of the upper terrace system adjacent to the Prairie Dog Creek floodplain and a portion of the dissected upland loess plains. Soils are predominantly Coly-Nuckolls associations in

the higher terrace area and Hord and Hall associations in the lower portions of the block.

Surface visibility in this survey block was poor, 5 to 15 percent at the most. Because of the ground cover of grasses and localized thickets, shovel tests were required to adequately determine the presence or absence of cultural material within the sample block. Rodent burrows and wind-break plantings were also examined in conjunction with the testing program, but no cultural materials were located.

No sites were found in this survey block.

SITE DESCRIPTIONS

25HN65. (Figure 2)

This large multicomponent prehistoric/historic site is located on high ground above and between a small stream and the Republican River Valley. The site is confined to an area about 40 meters long and 20 meters wide along a narrow ridge and includes a surface scatter of prehistoric artifacts (less than one item per sq. meter) and small scatter of historic materials on the northern 1/3 of the site area.

Survey and limited shovel testing down slope of the site was used in the investigation of the area.

Prehistoric material observed included: Upper Republican and White Rock ceramics, knapping debitage (tertiary flakes, primary flakes, core fragments, and broken cobbles), 3 biface fragments, one end scraper, and unidentified bone fragments. Historic materials included: manganese brown and salt glazed "American" stoneware, ironstone, whiteware, metal fragments, pale purple and clear glass, wire nails, milk glass fruit jar liner with fragment of zinc cap, and a cast iron pump in place over an abandoned water well.

A search of the Harlan County courthouse records was made since a potentially early historic component was located at the site. Records at the courthouse were unfortunately poorly organized and data were difficult to obtain. It was learned, however, that in 1877 Carl Bloom sold the farm, including the site area, to John Andrews (Deed Book A, p. 601) and received an official U.S. Government Patent in 1878 (Deed Book D, p. 61). Since Bloom sold the tract before receiving the final patent it is doubtful that he occupied the site and that Andrews' occupation of the site was used for meeting the requirements needed for the final patent. Occupation of the tract was most probably begun in 1877 by John Andrews. The Andrews occupation appears to have been short term since Allen Levi granted a right-of-way for the county road through the area in 1894 (Road Record, Book 1, p. 109 c.). The artifacts observed at the site support this conclusion.

No artifacts were collected, although a sample of the prehistoric materials was collected by U.S. Army Corps of Engineer personnel during a

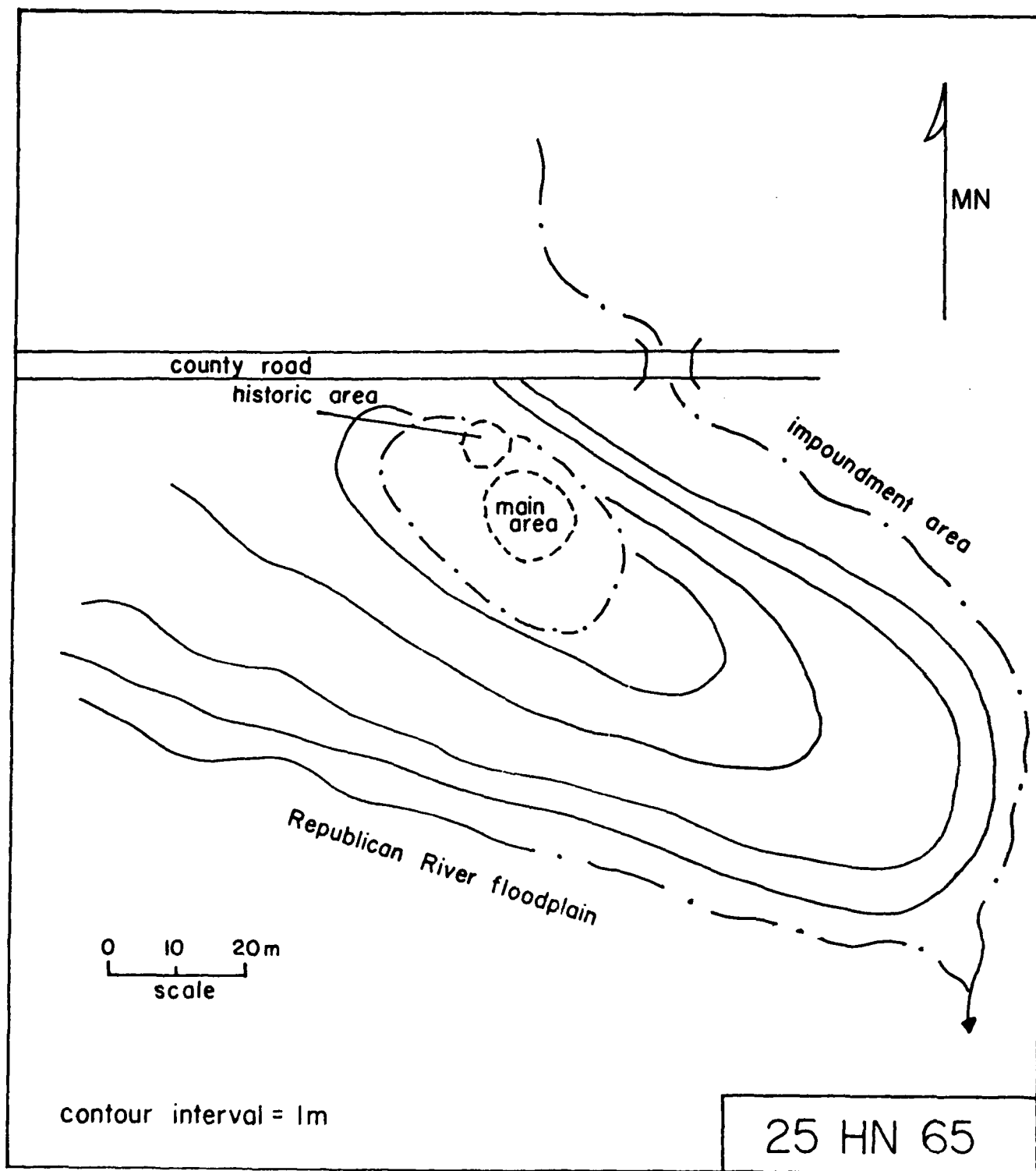


Figure 2. Site 25HN65, a prehistoric village located near Impoundment No. 2.

revisit to the site and provided to American Resources Group, Inc. Testing and collections were made by American Resources Group, Inc., during subsequent investigations (personal communications with Kurt Moore) and will be reported by that firm.

25HN66. (Figures 3, 4 & 5)

This moderate lithic and bone scatter is located along the top and slopes of a low terrace line spur along Rope Creek, and covers an area approximately 40 meters long and 20 meters wide. The main core area measures 20 by 15 meters. Soils are 0-20 cm of dark brown silt loam plow zone over 20-26 cm of lighter brown Hobbs-McCook silt loam above loess. Shovel tests indicate that all cultural materials appear to be confined to the plow zone level.

Cultural material observed included flakes of Niobrara jasper, a single flake of Alibates flint, modified cobbles, two biface fragments, one Upper Republican sherd, one French type steel trade arrowhead, one gunflint (French musket type), a quantity of bison bone and fire cracked rock.

Artifacts collected were the two biface fragments, sherd, steel arrowhead and gunflint. The trade items, i.e. steel arrowhead, and gunflint, suggest a mid to late eighteenth century date for one component of the site. Other tests and collections were made by American Resources Group, Inc. during subsequent investigations (personal communications with Kurt Moore) and will be included in a report by that firm.

25HN74. (Figure 6)

Situated on a high terrace above the Republican River Valley near the confluence of the Republican River and Rope Creek east of Impoundment No. 10, this site was located in a plowed field. The light lithic, ceramic and bone scatter was confined to a 10 x 10 meter area.

Survey revealed tertiary flakes of Niobrara jasper, bison bone fragments, and one White Rock sherd. Three Niobrara jasper flakes and the one White Rock sherd were collected. Personnel from American Resources Group, Inc. also visited the area and talked to an individual who had collections from the site (personal communications with Kurt Moore).

25HN76. (Figure 7)

Along the slopes of the first high terrace above Prairie Dog Creek in Sample Survey Block No. 3, a light scatter of lithic and historic artifacts was found eroding out along the high slopes of a terrace which has been dissected by a deep road cut. An area of about 10 x 20 meters is all that remains of this site along the slope.

Twelve tertiary flakes of Niobrara jasper, one kaolin pipestem, one mocha-banded pearlware sherd, one wire nail and two pale purple pressed glass fragments were observed during the initial reconnaissance of the site area. Shovel testing was limited because the site area had been planted in alfalfa.



Figure 3. 25 HN 66, looking southeast.

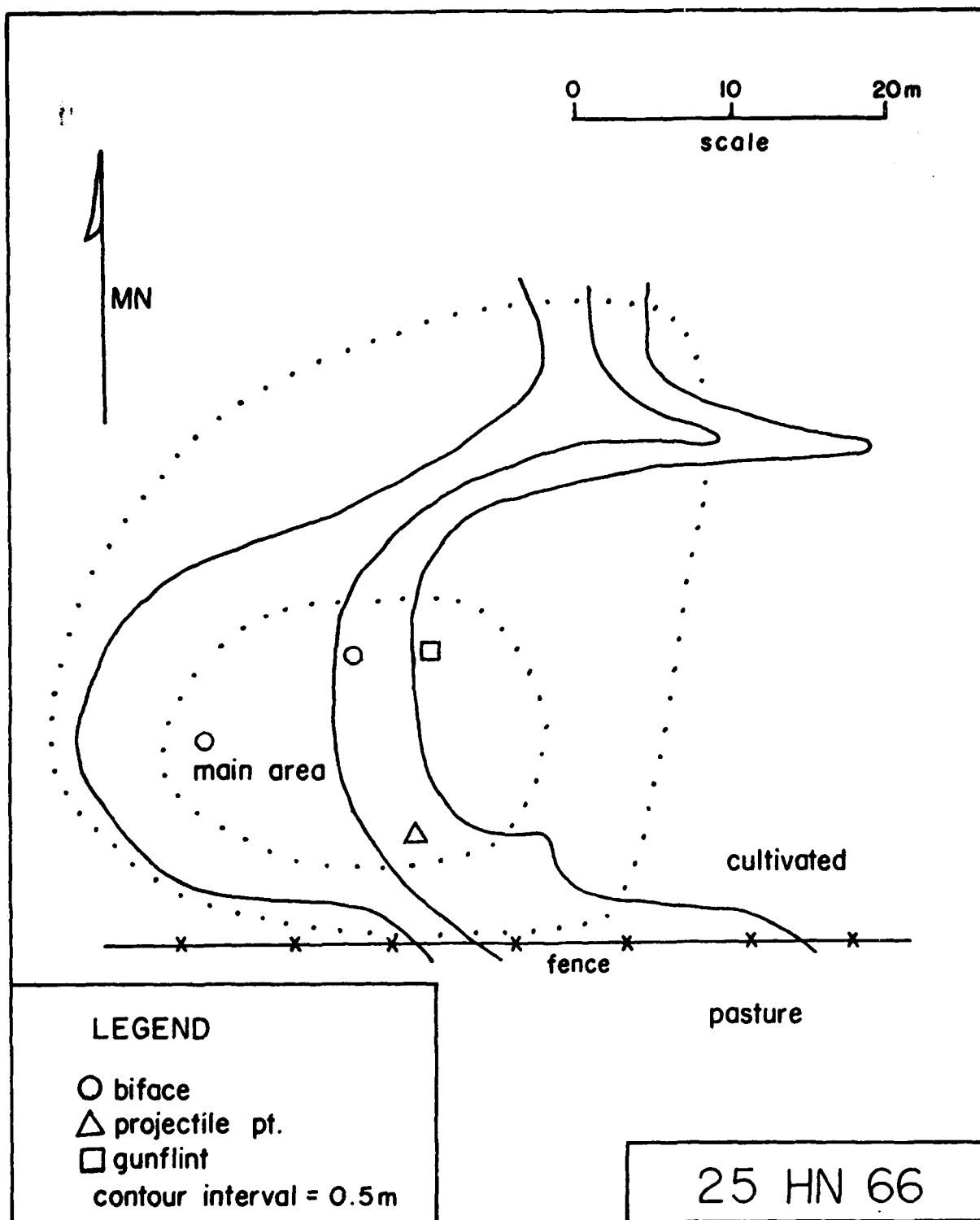


Figure 4. Site 25HN66, probable dual component camp(prehistoric/historic) located near Impoundment No. 10.

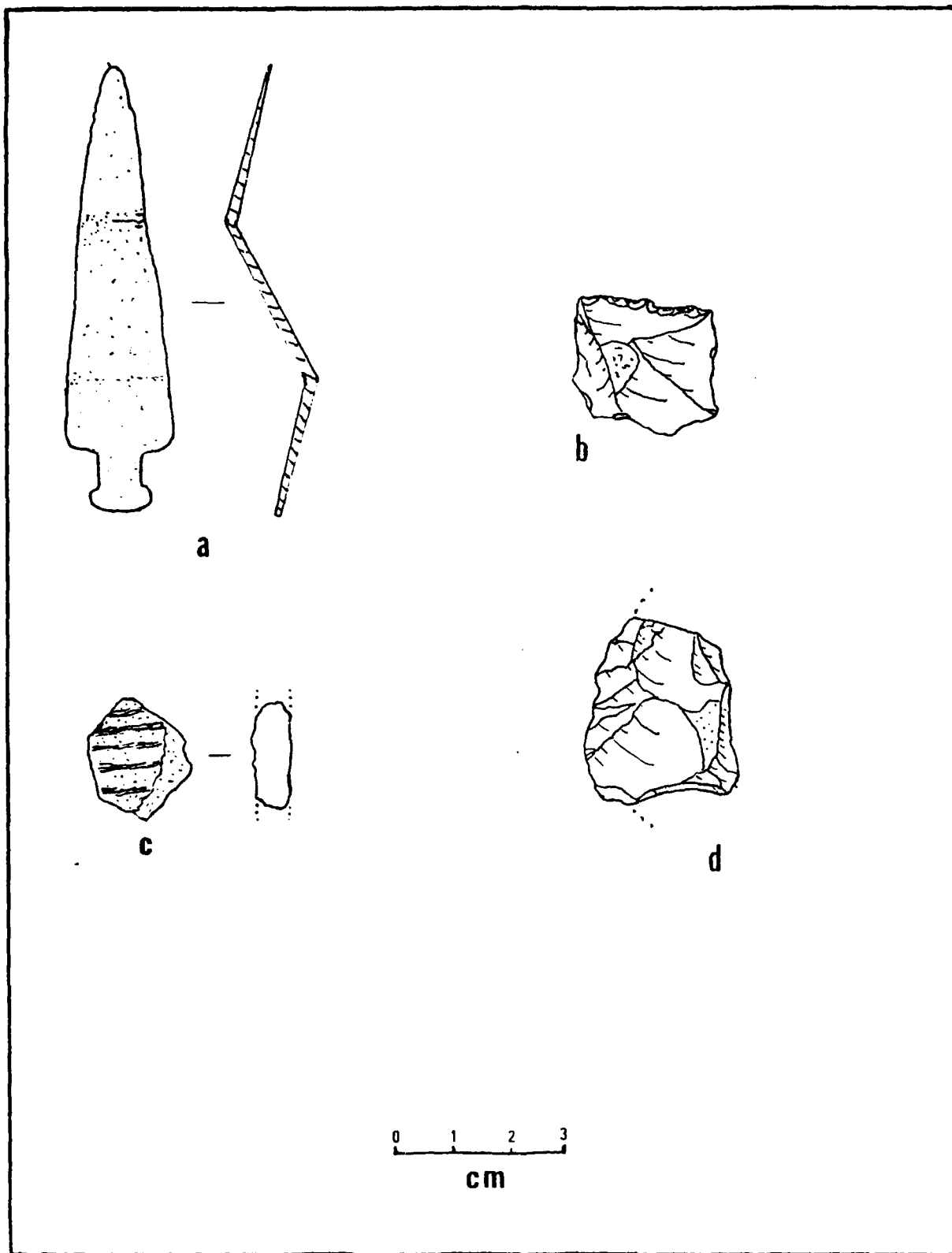


Figure 5. Artifacts from 25HN66. a. French-style steel trade arrowhead; b. musket gunflint-Frech type; c. pottery sherd-Upper Republican cordmarked; d. biface preform fragment.

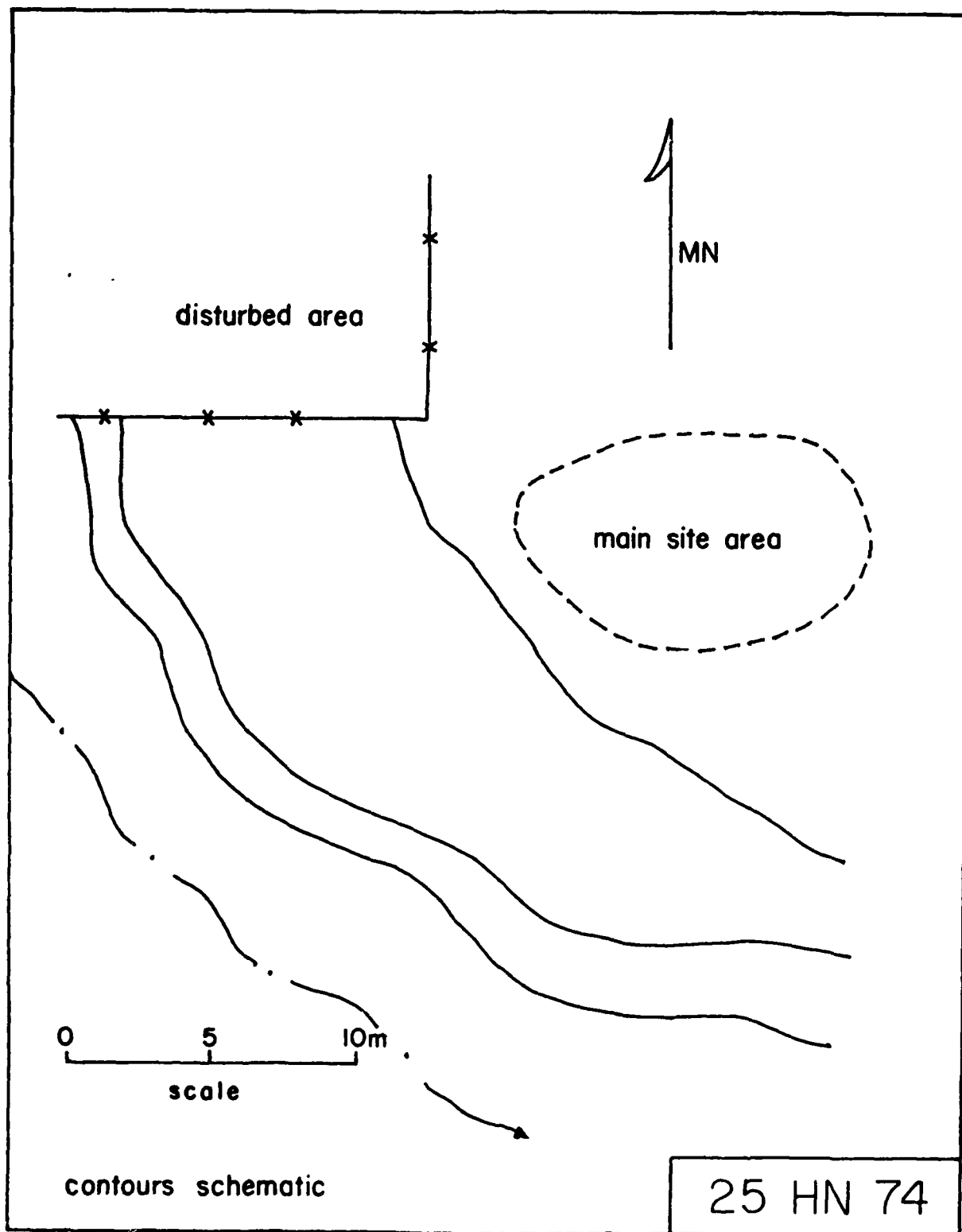


Figure 6. Site 25HN74, a prehistoric camp located near Impoundment No. 10.

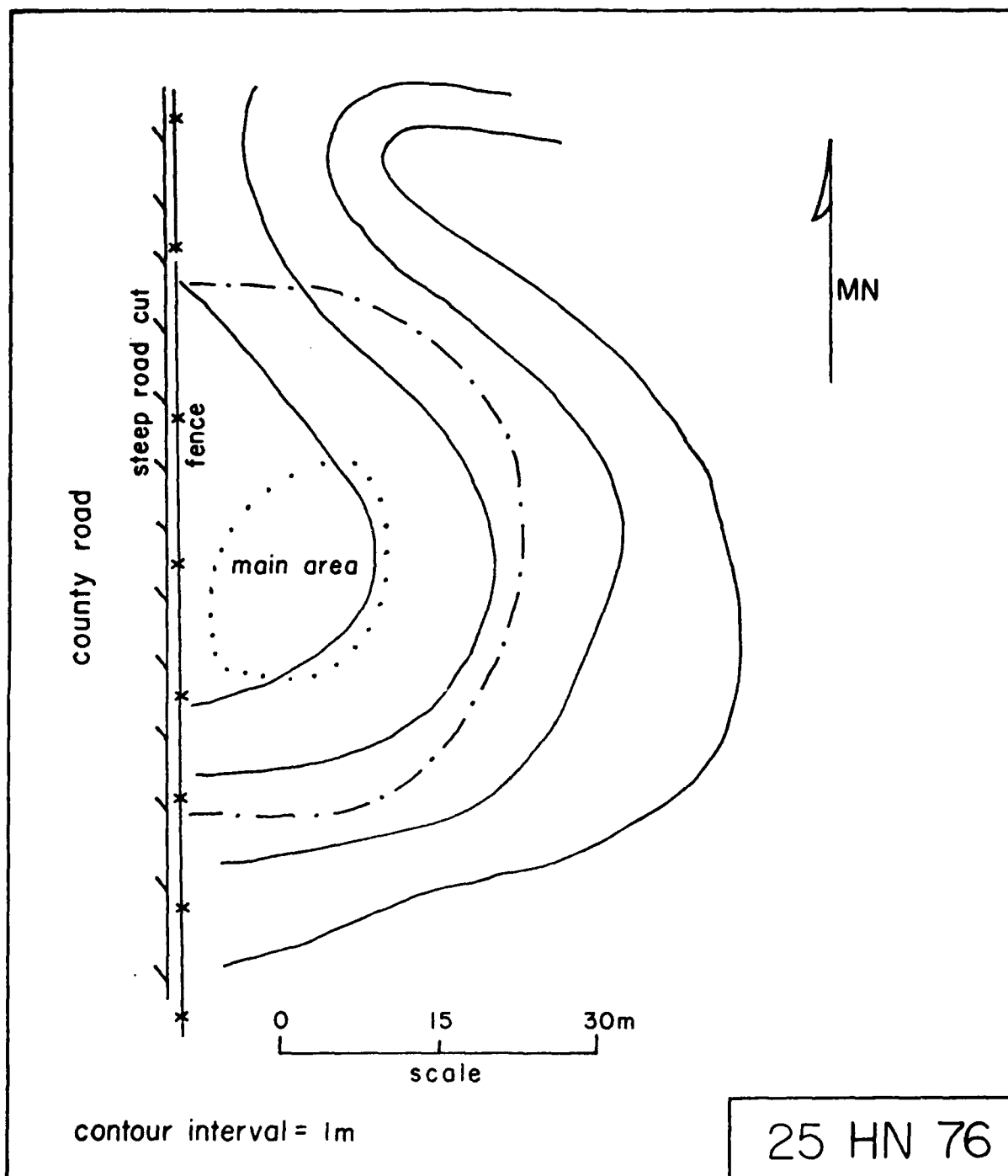


Figure 7. Site 25HN 76, a dual component scatter (prehistoric/historic) located within Sample Survey Block no. 3.

Shaving of the bank exposed in the road cut revealed no evidence of sub-surface features. No collections of any cultural materials were made, since the material was not diagnostic to any specific time period. Road construction appears to have destroyed the major portion of the site.

25HN77. (Figures 8 & 18)

25HN77 was located along the first low terrace above a tributary to Walnut Creek in Sample Survey Block No. 4. A moderate sized lithic and bone scatter, this site occupies an area on the slope and flat upper portion of a small spur on the first low terrace above a seasonal stream. This site is confined to an area approximately 30 meters long and 15 meters wide and is located in a fallow plowed field. Bone was most prevalent along the low slopes and flakes were more common on the flat upper portion of the terrace.

Survey and minimal shovel testing revealed approximately 50 flakes of Niobrara jasper, one spurred end scraper and a quantity of eroded unidentifiable large mammal bone. Only the spurred end scraper was collected.

25HN78. (Figures 9, 10 & 11)

This site is situated along a low terrace ridgespur above the confluence of an unnamed seasonal tributary and Prairie Dog Creek in Sample Survey Block No. 2 near Impoundment No. 4. This fairly large historic complex of foundations and other features is believed to represent a major farmstead with two or more dwellings. The frame and roof of one of the shed-like structures remains standing. A shallow privy has been cut by the county road indicating that the site predates the road. This is further supported by the remains of a boat landing pier on Prairie Dog Creek with a trail leading up to the site.

Building materials include wire nails, pane glass, milled lumber, galvanized sheeting, etc. Kitchen trash includes iron stove parts, milk glass, fruit jar liners, pale purple and clear glass fragments, and butchered bone. Agricultural implements such as disc blades, a carriage frame, a harrow and a two bottom plow were present. Miscellaneous artifacts, including a 1929 license plate, a cast iron pump, a galvanized tin water tank, concrete and brick fragments, and miscellaneous metal fragments were also observed in the area. The majority of the cultural materials observed date to the early or mid 20th century and were not collected. The site area will not be impacted by impoundment construction.

Eligibility Recommendations

On the basis of the surface evaluation and testing program carried out during this survey, none of the six recorded sites is considered to be eligible for nomination to the National Register of Historic Places. A final determination of significance for site 25HN65 will be made by American Resources Group, Inc. based on their testing program at this location.

Sites 25HN66, 25HN74, 25HN76, and 25HN77 are all located in plowed and cultivated fields. Testing at these sites indicated that no cultural

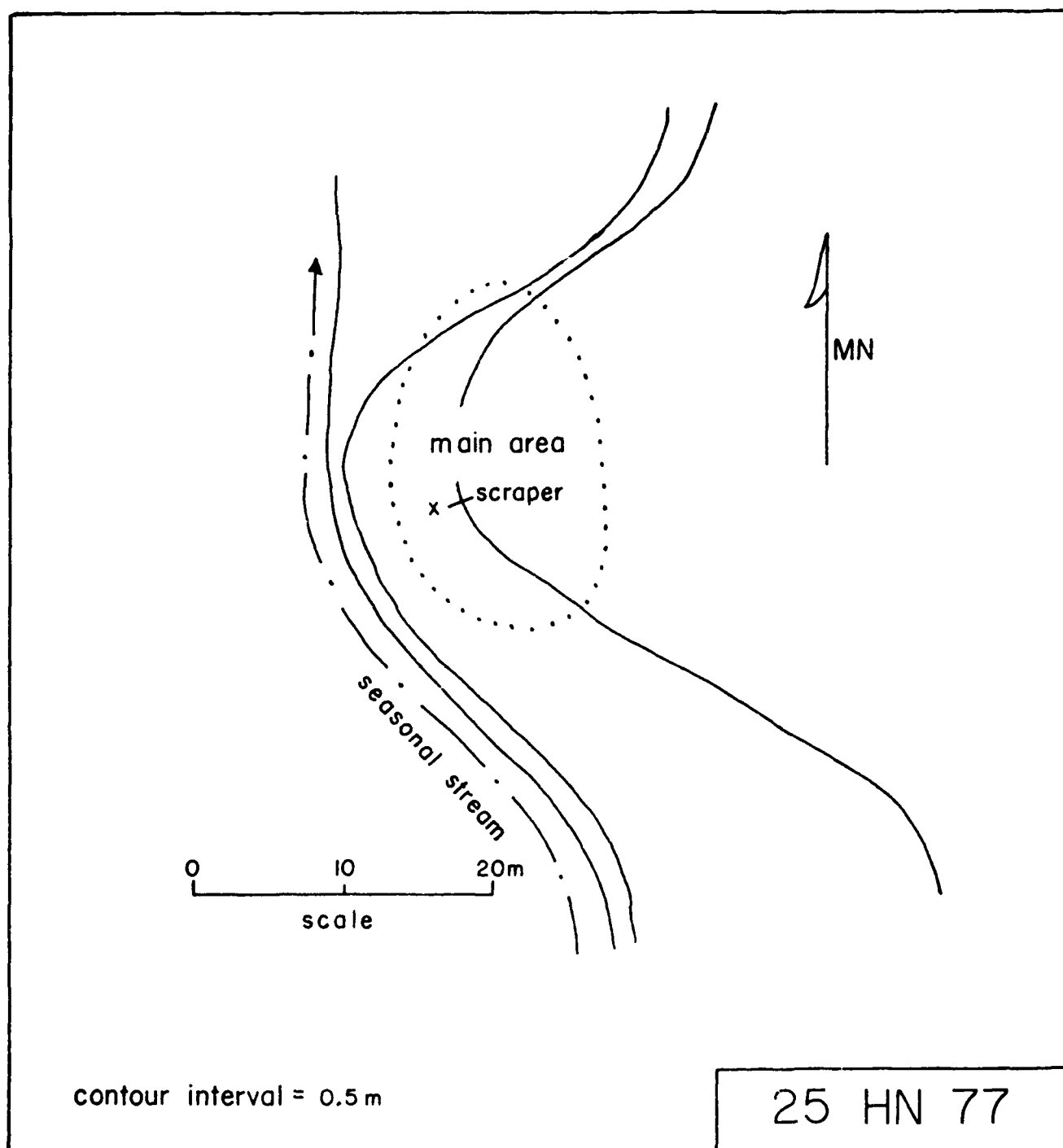


Figure 8. Site 25HN77, a prehistoric camp located within Sample Survey Block No. 4.

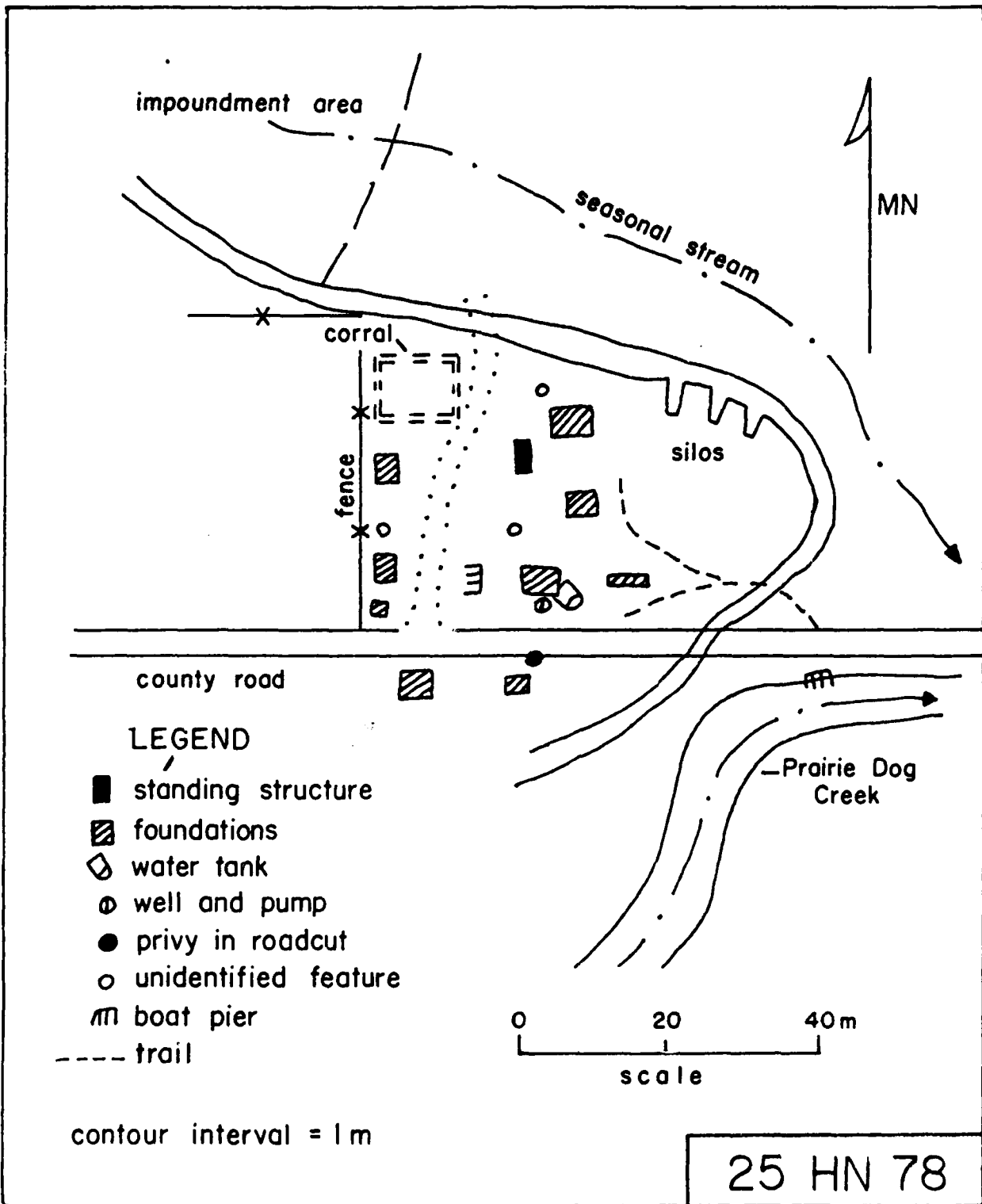


Figure 9. Site 25HN78, 20th Century historic complex located within Sample Survey Block No. 2 and Impoundment No. 4



Figure 10. 25HN78, Privy in roadcut.



Figure 11. View of site 25HN78 looking towards the east.

materials or features are present below the plow zone. As all materials at these sites are in an extremely disturbed context, the sites can be considered to lack integrity and it is not expected that significant data remains at any of these sites.

The historic site, 25HN78, although extensive and may be in part over 50 years in age, is not considered to exhibit uniqueness or exceptional architectural details which would make it eligible for the NRHP. The majority of the site appears to date to the mid-twentieth century and is in an extremely deteriorated condition.

ISOLATED OCCURRENCES

Isolated Occurrence No. 1. (Figures 12 & 14)

This sparse lithic and bone scatter (possibly a temporary camp), was located along the low slopes and edge of a small ridgespur above a seasonal stream overlooking Impoundment No. 7. This isolated occurrence covers an area less than 20 meters long and 10 meters wide. Soils consisted of a dense root mold 8 cm deep over a thin mantle of Uly silt loam (8 - 20 cm deep) loess. Cultural material is apparently confined to the surface and immediate subsurface. Survey, limited shovel testing and bank cutting were used during the investigation of the area. Cultural materials observed included five bifacial thinning flakes of Niobrara jasper and an unidentifiable eroded bone fragment. No collections were made since all surface indications of the site would have been removed.

Isolated Occurrence No. 2. (Figures 13 & 15)

Isolated Occurrence No. 2 is located along the eroded flanks of a ridgespur above a seasonal drainage near Impoundment No. 12. This isolated bifacially-trimmed cobble preform of Niobrara jasper was found on the surface of a bank of shale which has been exposed through extensive erosion. Limited shovel testing of the uneroded portions of the ridgespur yielded no further cultural materials. A number of unmodified cobbles of Niobrara jasper were, however, noted in the area. A field drawing was made of the bifacially-flaked cobble, but it was not collected since it was not diagnostic of any cultural period.

Isolated Occurrence No. 3. (Figure 16)

One flake and a bone fragment comprise this isolated occurrence, which was found along a ridgespur above Mill Creek near Impoundment No. 9. Soils are Nucholls-Uly silt loam (24 cm deep) containing small amounts of carbonized wood throughout, over loess. The carbonized wood appeared to be a naturally formed prairie development as opposed to culturally derived deposits. The flake and bone appear to have been redeposited from higher elevations of the slope. Survey and limited shovel testing did not produce any further cultural material. The flake of Niobrara jasper was not collected, since to do so would remove all surface indications of this isolated occurrence.



Figure 12. Environmental Setting, Isolated Occurrence No. 1 looking southeast.

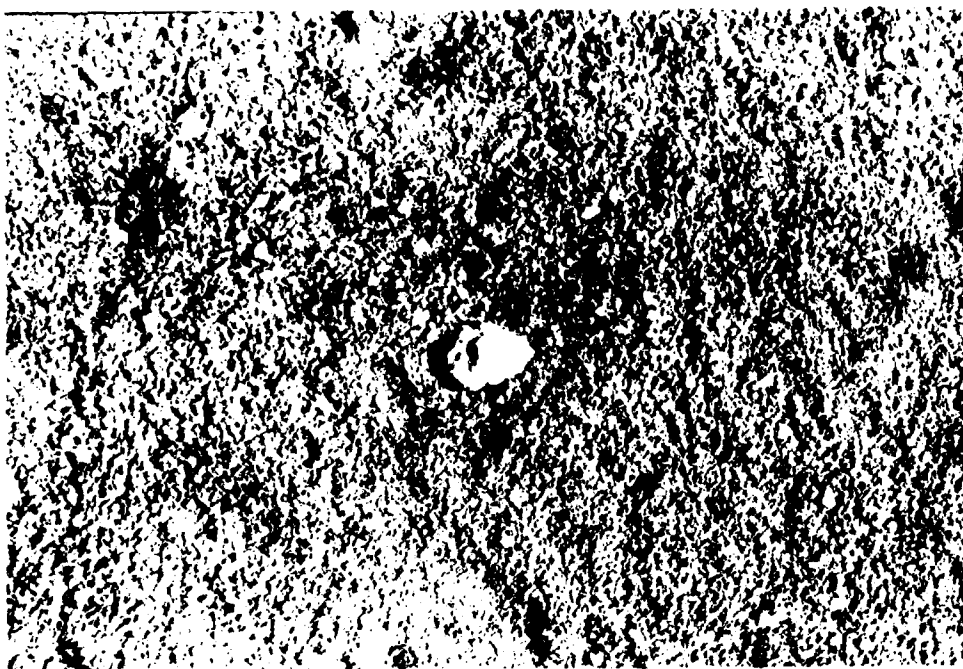


Figure 13. Isolated Occurrence No. 2, preform in situ.

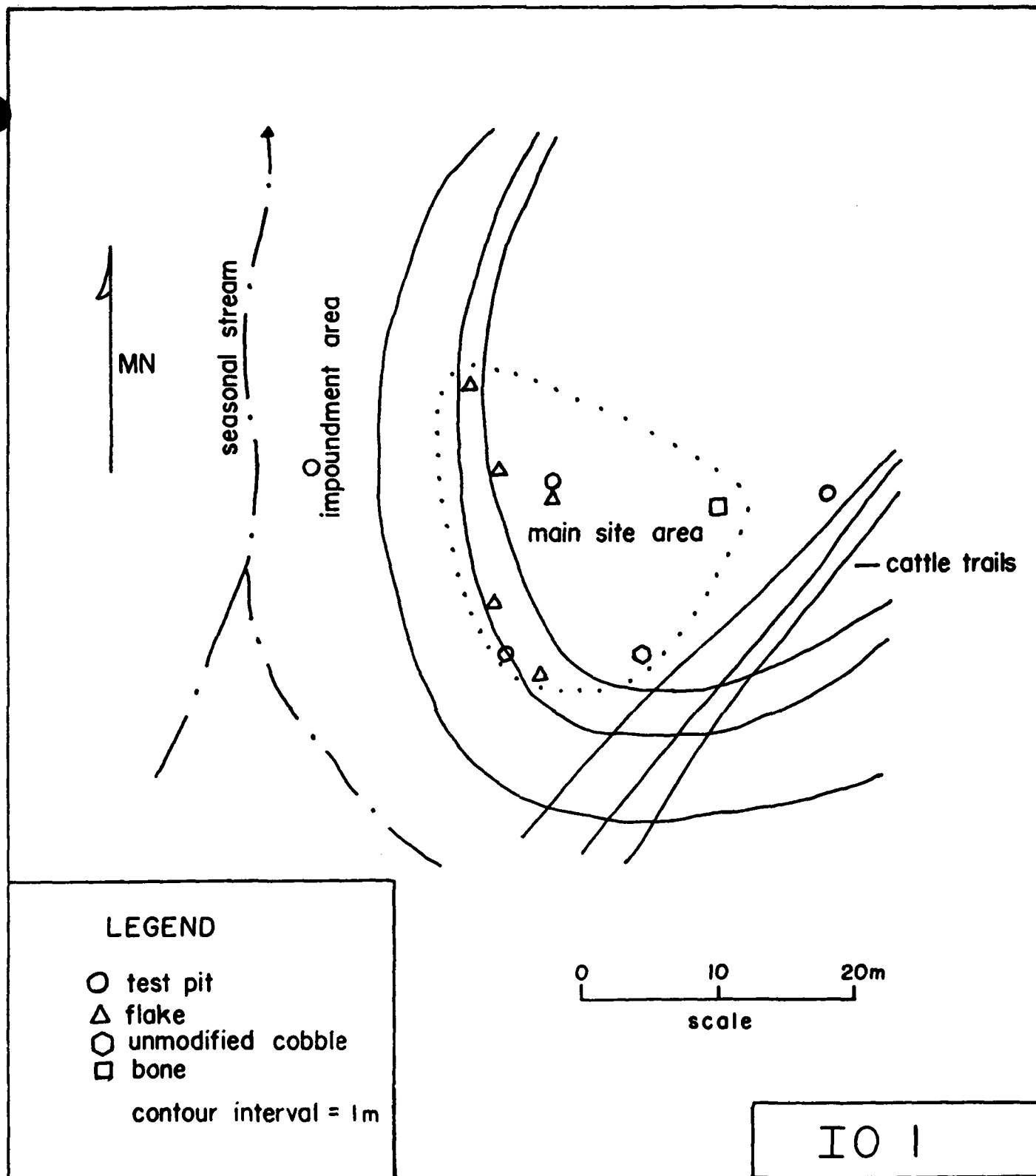


Figure 14. Isolated Occurrence No. 1 within Impoundment No. 7.

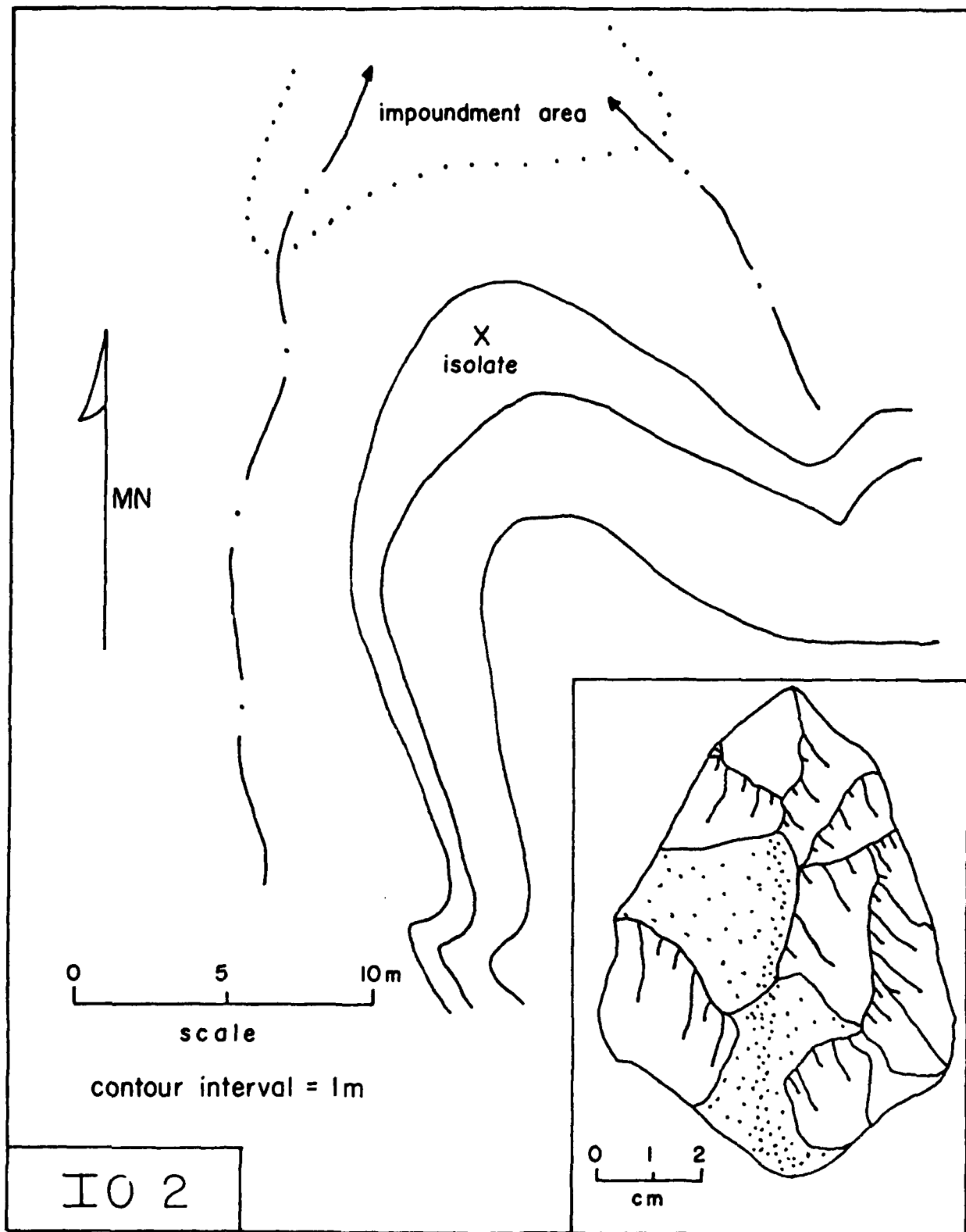


Figure 15. Isolated Occurrence No. 2 located within Impoundment No. 12. Inset-bifacially trimmed cobble of Niobrara jasper.

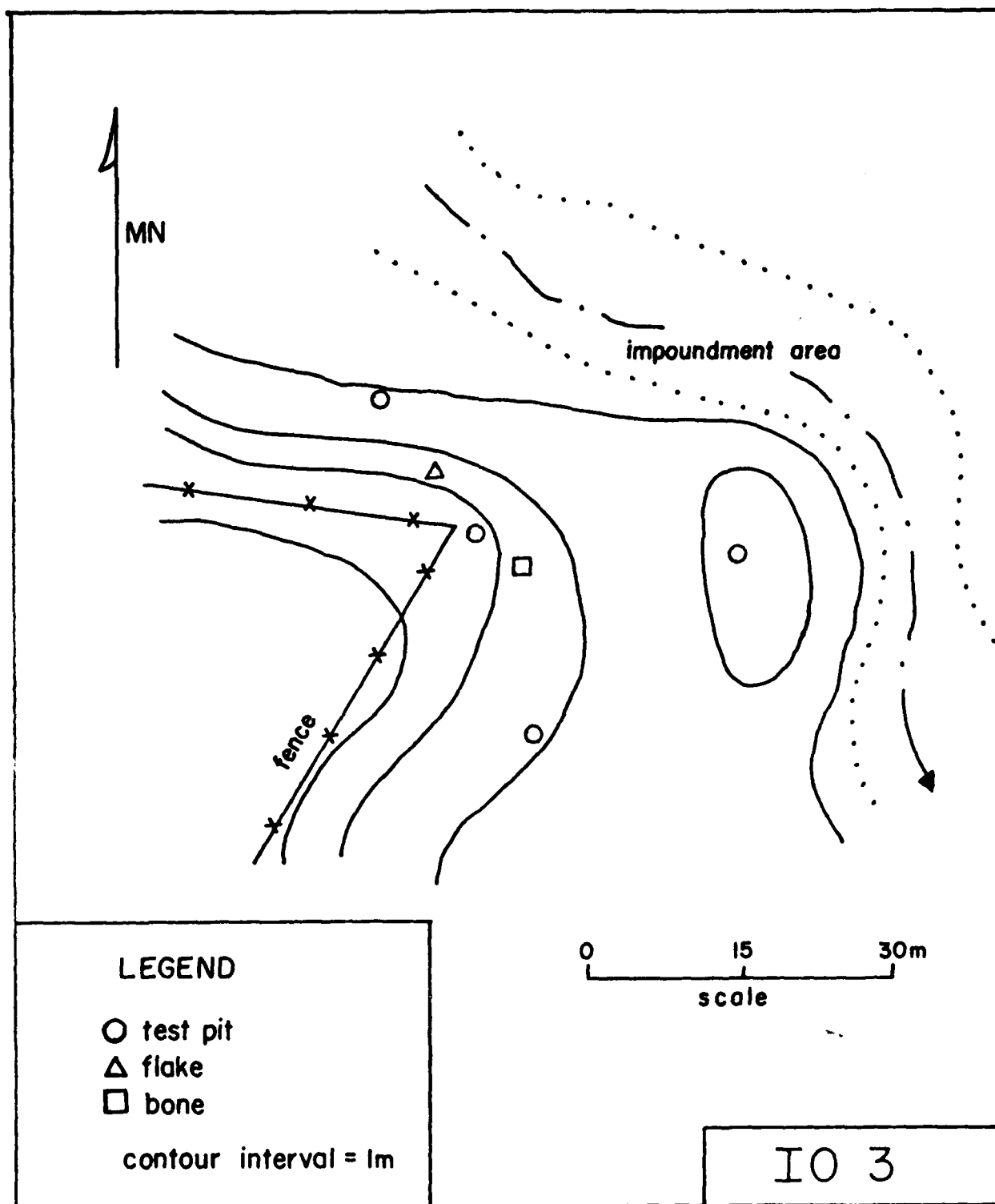


Figure 16. Isolated Occurrence No 3. located near Impoundment No. 9.

Isolated Occurrence No. 4. (Figures 17 & 18)

This isolated projectile point fragment was recovered from the edge of a deeply ditched road cut about 100 meters west of the Mill Creek bridge along the terrace edge. This artifact was judged to have been removed from its original context. The road cut and surrounding area were examined, but no other cultural material was observed. The projectile point fragment was collected due to its diagnostic nature and lack of original context.

Isolated Occurrence No. 5. (Figures 13, 19, 20 & 21)

A thin, dispersed lithic and bone scatter was found along an oxbow terrace adjacent to Prairie Dog Creek. The terrace covers a little more than 15 acres between the curve of the oxbow and Prairie Dog Creek. Soils are deep deposits of Broken Alluvial Land flood silts (over 50 cm deep) and it is believed that any cultural deposits beneath the 20 cm deep plow zone would be preserved by flood silt deposits. No cultural materials were encountered in shovel tests, although six unidentifiable bone fragments and one flake, one core tool, and a knife fragment of Niobrara jasper were seen on the surface of the terrace. The core tool and knife fragment were collected.

Isolated Occurrence No. 6. (Figure 22)

A sparse lithic scatter was located next to the fence line in a 5 x 10 meter area atop the crest of a ridgespur above an old channel of Walnut Creek in Sample Survey Block No. 4. The isolated occurrence apparently continues southward onto private land which was not surveyed.

Survey and shovel testing revealed only six tertiary flakes of Niobrara jasper, none of which were collected.

Isolated Occurrence No. 7. (Figure 23)

A small scatter of unidentifiable large mammal bone fragments and one flake of Niobrara jasper were located eroding out of an area of extensive badger burrows on the slope of a ridgespur above a deep wash or seasonal stream in Sample Survey Block No. 2. A direct association between the flake and bones could not be made. Soils included a thin mantle (4 - 8 cm deep) of silt loam over loess.

Survey, shovel testing, bank cutting and inspection of dirt piles around badger burrows, failed to reveal any other cultural material. No collections were made since this would remove all surface indication of the site area, and no diagnostic material was present. The area has been extensively disturbed by slope wash erosion and badger burrowing and little integrity remains.

Isolated Occurrence No. 8. (Figure 24)

A small concentration of flakes was situated on the relatively flat flank of a low terrace spur above Prairie Dog Creek in Sample Survey Block No. 2. Material was thinly scattered over an area of about 10 x 5 meters in a fallow

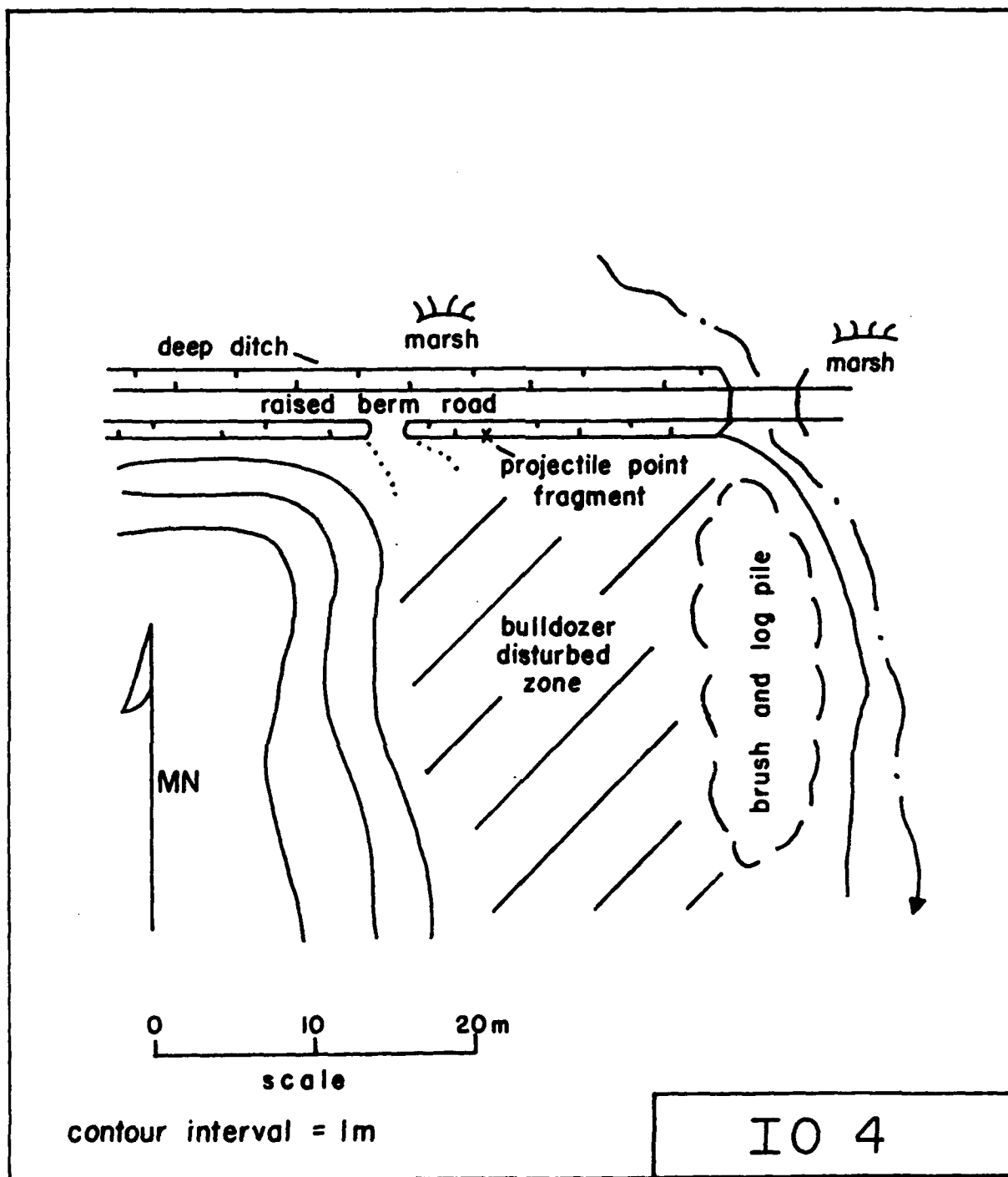


Figure 17. Isolated Occurrence No. 4 located near Impoundment No. 9.

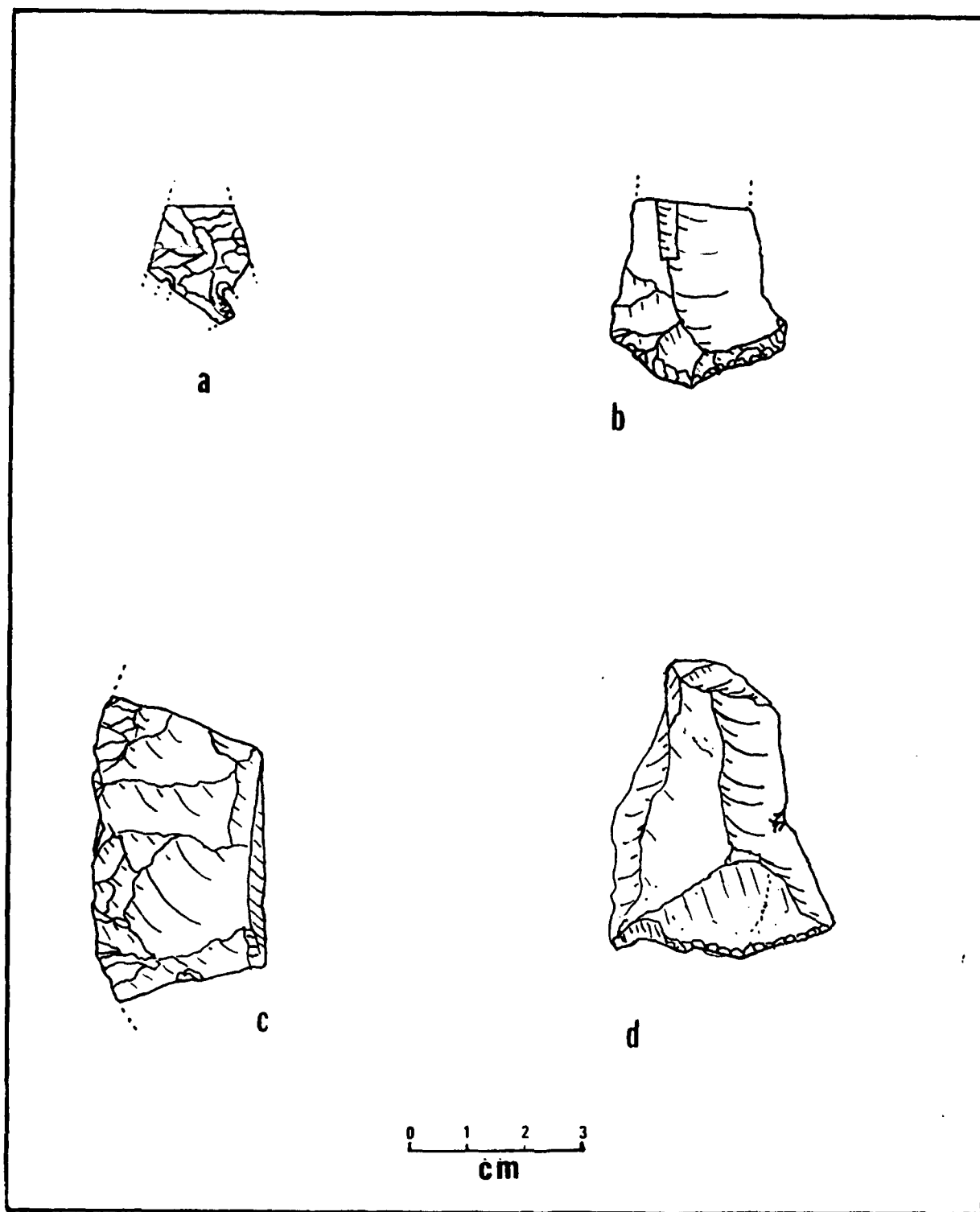


Figure 18. Artifacts from the survey: a. corner-notched projectile point fragment from Isolated Occurrence No. 4; b. spurred end scraper, 25HN77; c. preform fragment from Isolated Occurrence No. 5; d. core/scraper fragment from Isolated Occurrence No. 5.

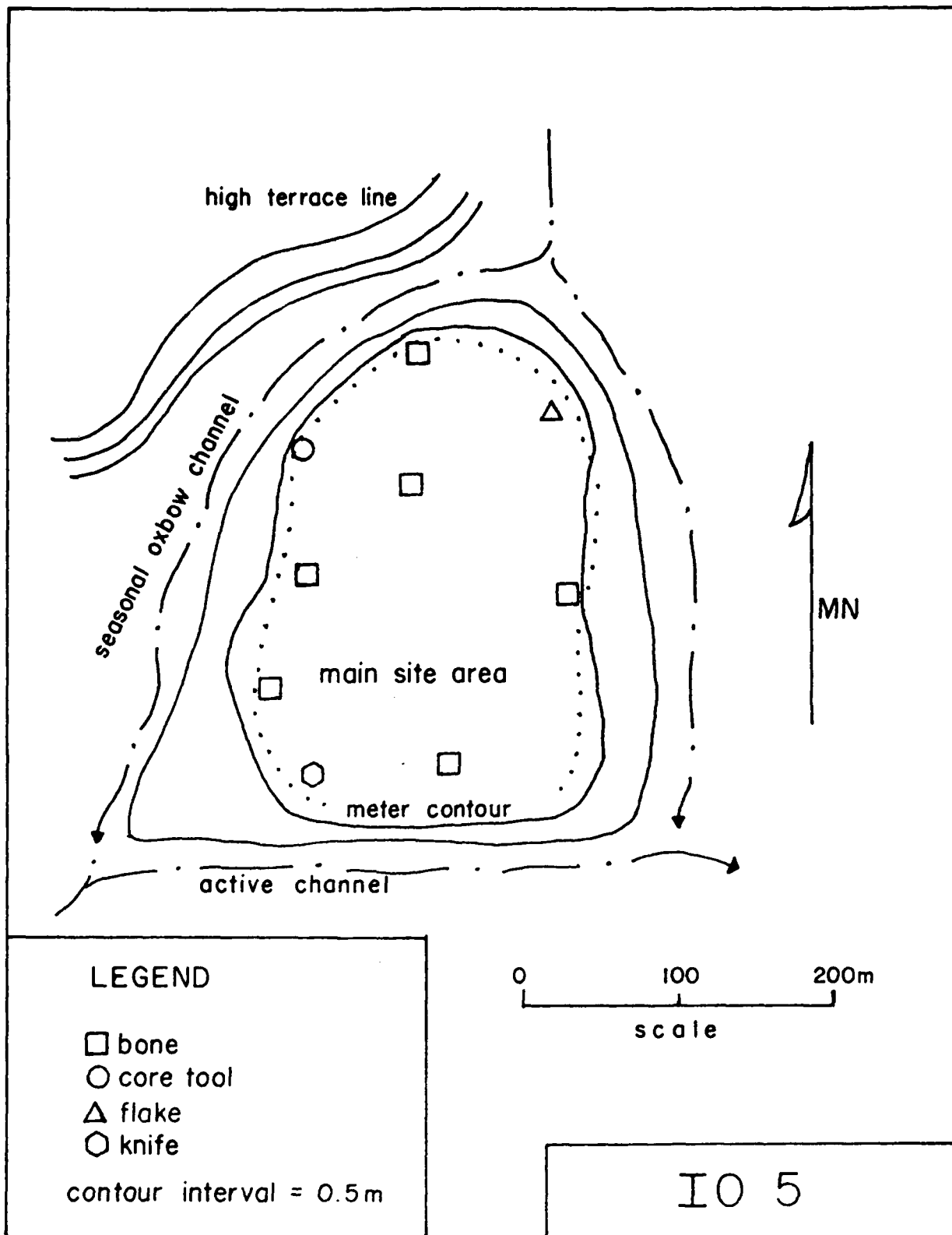


Figure 19. Isolated Occurrence No. 5 within Sample Survey Block No. 3.



Figure 20. Environmental setting, southern area,
Isolated Occurrence No.5, view to west.



Figure 21. Environmental setting, northern area,
Isolated Occurrence No.5, view to north.

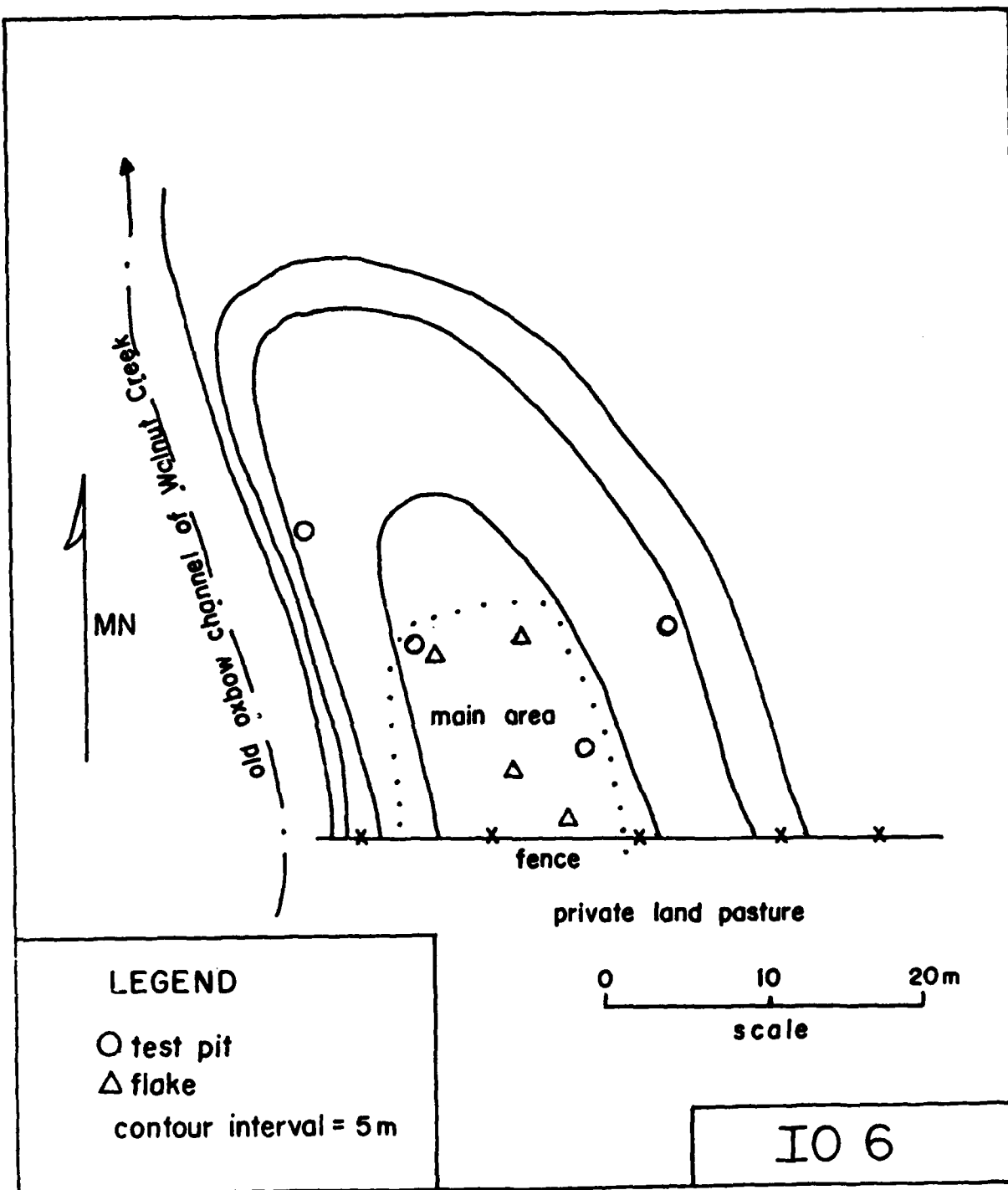


Figure 22. Isolated Occurrence No 6. within Sample Survey Block No. 4.

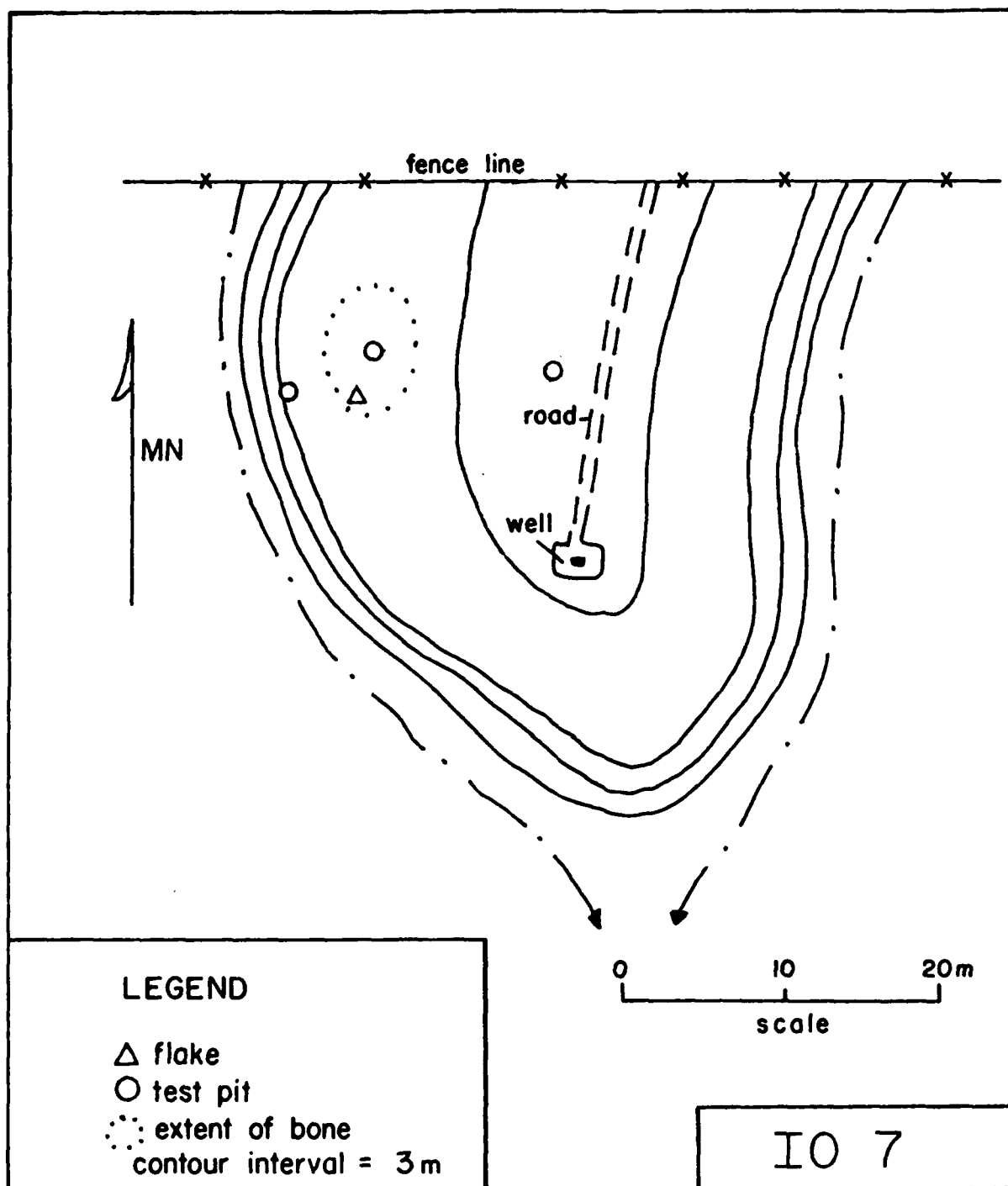


Figure 23. Isolated Occurrence No. 7 located near the southern area of Impoundment No. 4 and Sample Survey Block No. 2.

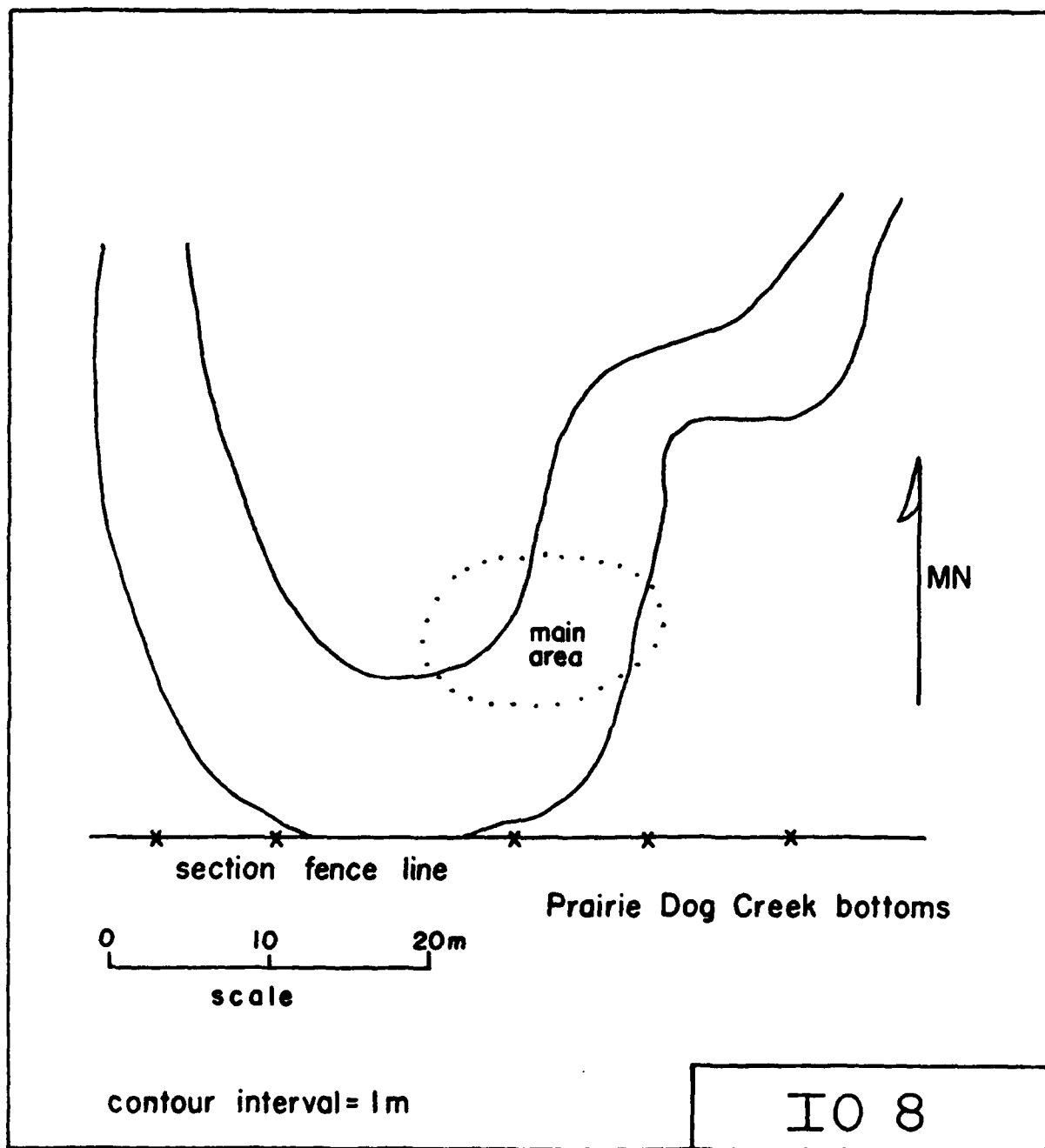


Figure 24. Isolated Occurrence No. 8 within Sample Survey Block No. 2.

corn field planted in deep Uly-Coly silt loam deposits.

Twelve tertiary flakes of Niobrara jasper were found during survey of the area. No cultural material was located in shovel tests.

The area is at present intensely cultivated and subject to runoff erosion. Deep field wash channels (up to 20 cm deep) were observed throughout the area.

Eligibility Recommendation

None of the isolated occurrences located during this survey are recommended for nomination to the NRHP because of their surficial and disturbed condition and their lack of further archaeological data important to the understanding of the prehistory of the area.

Project Recommendations

Fourteen prehistoric and/or historic sites or isolated occurrences were located during this survey of waterfowl impoundment and sample survey block areas. Nine of these were found in or near the impoundment areas, the others being located during inventory of the sample survey blocks. Eleven of these cultural resources will not be affected by the proposed project and no further archaeological work is being recommended. Three are located outside of the construction areas but might be indirectly affected by access and are being recommended for avoidance. Summary data for this survey project is provided in Table 1.

Specific recommendations are as follows:

Impoundment No. 1. No cultural resources were located in the project or its vicinity. No further archaeological work is recommended.

Impoundment No. 2. No cultural resources were located in the impoundment. A single site, 25HN65, was located along a high terrace adjacent to and west of the impoundment and could be disturbed by heavy earthmoving equipment along access to the construction site. It is recommended that all traffic be routed away from the site. The site was tested by the American Resources Group field crew, and will be reported in more detail by them.

Impoundment No. 3. No cultural resources were located in the impoundment or its vicinity. No further archaeological work is recommended.

Impoundment No. 4. Two cultural resources, 25HN78 and Isolated Occurrence No. 7, were located near the project. Isolated Occurrence No. 7 is a sufficient distance from the construction area and will not be disturbed. 25HN78 is situated along a low ridgespur between the construction area and possible county road access and may be disturbed by traffic to the construction site. It is recommended that all traffic be routed away from the site to avoid impact.

TABLE 1. PROJECT SUMMARY

<u>Cultural Resource</u>	<u>Project Area</u>	<u>Site Type</u>	<u>Impacts</u>	<u>Recommendations</u>
Isolated Occurrence No. 1	Impoundment No. 7	temporary camp	none	no further work
Isolated Occurrence No. 2	Impoundment No. 12	isolated artifact	none	no further work
Isolated Occurrence No. 3	Impoundment No. 9	lithic scatter	none	no further work
Isolated Occurrence No. 4	Impoundment No. 9	isolated artifact	none	no further work
25HN65	Impoundment No. 2	village	no direct impact	prevent non-project activity in area
25HN66	Impoundment No. 10	camp	none	no further work
25HN74	Impoundment No. 10	camp	none	no further work
25HN76	Sample Survey No. 3	lithic scatter	none	no further work
Isolated Occurrence No. 5	Sample Survey No. 3	camp (?)	none	no further work
25HN77	Sample Survey No. 4	camp	no direct impact	prevent non-project activity in area
Isolated Occurrence No. 6	Sample Survey No. 4	temporary camp	none	no further work
Isolated Occurrence No. 7	Sample Survey No. 2	kill/butcher site?	none	no further work
	and Impoundment No. 4			
Isolated Occurrence No. 8	Sample Survey No. 2	camp	none	no further work
25HN78	Sample Survey No. 2			
	and Impoundment No. 4	historical	no direct impact	prevent non-project activity in area

Impoundment No. 5. No cultural resources were located in the project or its vicinity. No further archaeological work is recommended.

Impoundment No. 6. One cultural locality was noted near the project but could not be investigated due to possible crop damage. The site is a sufficient distance from the project and will not be affected by construction. No further archaeological work is recommended.

Impoundment No. 7. A single, Isolated Occurrence, No. 1, was located in the project vicinity. It is situated along a terrace above the upper impoundment area and should not be affected by the project. No further archaeological work is recommended.

Impoundment No. 8. No cultural materials were located in the project or its vicinity. No further archaeological work is recommended.

Impoundment No. 9. Two Isolated Occurrences, Nos. #3 and 4, were located in the project area. Isolated Occurrence No. 3 is a sufficient distance from the impoundment area and will not be affected. Isolated Occurrence No. 4 is an isolated artifact which has been collected. No further archaeological work is recommended.

Impoundment No. 10. Two prehistoric sites, 25HN66 and 25HN74 are located on terraces some distance from the impoundment and will not be affected.

Impoundment No. 11. No cultural materials were located in the project or its vicinity. No further archaeological work is recommended.

Impoundment No. 12. An isolated artifact, Isolated Occurrence No. 2, was found near the project area. The artifact, a bifacially trimmed cobble preform was drawn in the field and left in place. The artifact is located a sufficient distance from the project area and will not be affected.

Impoundment No. 13. No cultural materials were located at either impoundment area. No further archaeological work is necessary for this Impoundment.

Sample Survey Block No. 1. No cultural resources were located within the sample survey area. No further archaeological work is recommended.

Sample Survey Block No. 2. Two Isolated Occurrences, Nos. 7 and 8, and one historic complex, 25HN78, were located within this sample survey area. The 200 acres of the block included agricultural fields and grasslands.

Although the site does not meet National Register guidelines because it is too recent, it is recommended that construction traffic for the construction of Impoundment No. 4 be routed away from it.

Sample Survey Block No. 3. One Isolated Occurrence, No. 5, and an archaeological site, 25HN76, were found in the sample block. This block covered 40 acres of land, and included agricultural fields and grasslands. 25HN76 has been impacted by construction of the section line road, and should

suffer no further damage during this construction. Isolated Occurrence No. 5 was located within a plowed field on the floodplain adjacent to an old oxbow of Prairie Dog Creek. Construction personnel should be aware that there is the possibility of sites along the oxbow and first terraces of the major stream in this area, and should watch for artifactual material during construction. If any artifactual materials are encountered, a qualified archaeologist should be consulted.

Sample Survey Block No. 4. One Isolated Occurrence, No. 6, and an archaeological site, 25HN77, were found within the limits of this sample survey block of 40 acres. Both are located on the terrace system of Walnut Creek, and, as such, should be well removed from any construction in Prairie Dog Creek.

Construction equipment should not be allowed in the area of site 25HN77 and avoidance is recommended. The isolated occurrence is far enough from any probable construction and should not be impacted.

Sample Survey Block No. 5. No sites or cultural materials were found within this sample area of 40 acres. No further archaeological work is warranted.

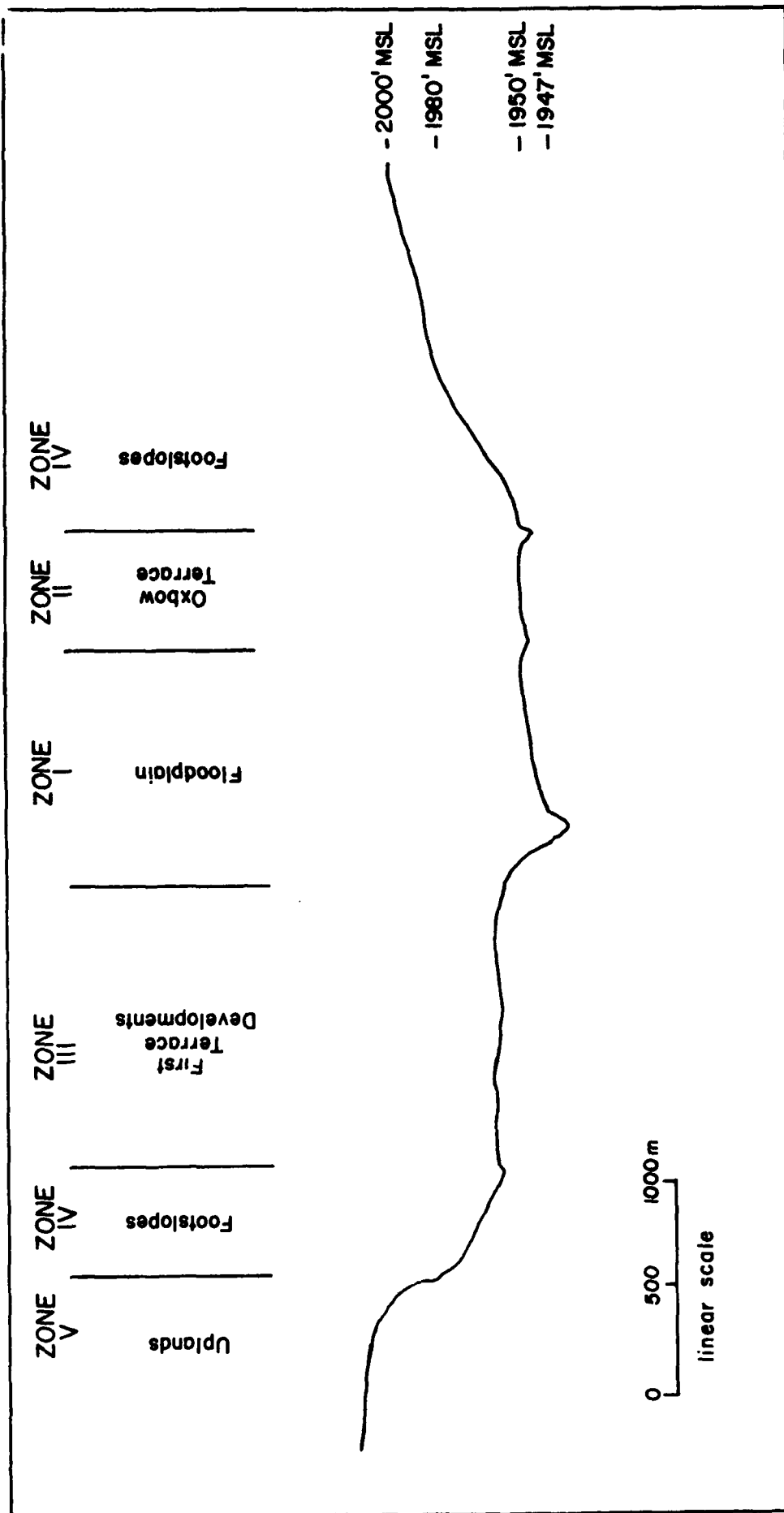


Figure 25. Cross-section of Prairie Dog Creek Illustrating the Environmental and Topographic Zones.

CHAPTER 5

SETTLEMENT PATTERNS AND CULTURAL RESOURCES

IN THE HARLAN COUNTY LAKE AREA

Pepperl and Falk (1979) have presented a preliminary settlement plan for the Harlan County Lake which serves as a starting point for this discussion. The plan was originally offered as a management plan for area cultural resources and includes site locational data and management recommendations.

One of the major goals of this survey was to address the conclusions presented by Pepperl and Falk (1979) and to develop a more refined settlement model for the Prairie Dog Arm of the lake.

Data for this model came from this and previous inventories of the area, review of the literature, and field reconnaissance of the area to establish environmental variables. For discussion purposes the sites located during this inventory are being included with the 25 previously recorded sites. Considerable emphasis has been placed on the data presented by Pepperl and Falk (1979).

Environmental Variables

Prairie Dog Creek is the major tributary feeding the Republican River in the region, and, like the Republican River, flows through a mature bed in a well developed valley. At its widest point where it joins the Republican River Valley, Prairie Dog Creek Valley measures just over 3 km. The valley constricts to about 1 km wide some 12 km upstream at the western end of the reservoir maximum floodpool.

Five topographic/environmental zones (Figure 25) are recognized within the study area:

Zone 1. Floodplain. This zone includes the stream channel itself and the immediate lowlands surrounding it. Elevation in the channel is principally below the 1950' MSL contour line except at the mouth of the valley where it drops to 1900' MSL. Soils are generally deep deposits of alluvium and support a lush growth of timber, understory, other shrubbery and tall grasses. The floodplain is generally narrow, less than 200 meters wide except at the mouth of the valley where it expands to over 2 km wide.

Zone 2. Oxbow terraces. The mature meander of Prairie Dog Creek has left numerous wide oxbow "islands" along its course. These terraces are generally low floodsilt build-ups ringed by old channels which may or may not seasonally hold water. Oxbows are most common on the stream where minor tributaries join the main channel and have seasonally available running water. Soils are predominantly fertile floodsilts supporting tall grasses and shrubbery with timber and understory lining the old channels. Many of the oxbows on Prairie Dog Creek are now covered by the Harlan County Lake.

Zone 3. First terrace development. These terraces outline the floodplains along the entire length of Prairie Dog Creek and are generally flat rises of well developed soils. Elevation along Prairie Dog Creek is principally between 1950' and 1980' MSL. Wide fans and low ridge-like spurs of these terraces are common. Soils are moderately deep (40 to 60 cm) deposits of silt loam supporting scattered stands of timber and shrubbery but are predominantly covered by mixed grasses.

Zone 4. Footslopes. The footslopes exist as narrow to wide margins between the first terrace and the uplands. Erosional washes and bands of colluvium are common. The colluvium often contains gravels of chert and other knappable materials. Slopes vary from low (to 3 percent) in wider areas to steep (over 15 percent) in narrower areas adjacent to the uplands. Soils are generally poorly developed silt loams (generally less than 40 cm deep) over loess and support a predominantly mixed grass flora. Elevation in this area is between 1980' and 2000' MSL.

Zone 5. Loess Plains Uplands. These upland areas mark the valley margins above the 2000' MSL contour line. Soils are generally shallow developments of upland silt loams (20 to 30 cm deep) over loess and support a predominantly short grass flora. The uplands are cut by deep washes where minor tributaries enter the Prairie Dog Creek Valley. Low seasonal ponds or playas are common in the flat to undulating uplands away from the minor drainages which dissect them.

Settlement Patterns on Prairie Dog Creek

Five major site types can be identified for the area; temporary camps, seasonal camps, habitation camps, village sites, and special activity areas.

Temporary camps are sites which may have been occupied briefly by an individual or small group. Cultural remains at such sites can be expected to be sparse (or nonexistent) and predominantly lacking in diagnostic artifacts.

Seasonal camps are sites which are utilized by both large and small groups on a periodic basis. These sites may be centralized foraging camps, transient stations along established pathways, or processing/staging areas for seasonal rounds. Indications, like those for the more temporary camps, may be sparse and dependent upon the amount and kinds of activities conducted there.

Habitation camps are sites which are more permanently occupied, minimally on a seasonal basis, but may lack developed middens and structural indications more commonly associated with village sites. Indications usually include dense concentrations of cultural materials in more definable areas.

Villages are sites with habitation structures and other indications of a permanent sedentary lifestyle. Large concentrations of cultural materials and a wide array of artifact types are common.

Special activity areas can vary in size and exhibit material evidence of

specialized functions. Burial grounds and ossuaries, lithic procurement areas, hunting camps and plant gathering areas are examples of this site type.

Culturally, these site types reflect the activities of the groups who once occupied the region. Temporal changes did occur and are important to understand for ordering the cultural resources of the region into a processual framework.

Twenty-seven sites and four isolated occurrences (Table 2), excluding those further upstream in Kansas, have been located on the Prairie Dog Arm of the Harlan County Reservoir. Thirteen sites have recognizable or inferred components and seventeen are not diagnostic of any particular cultural/temporal manifestation. The temporal range of these sites spans the Paleo-Indian through Historic Aboriginal periods. Functions can be attributed to 15 of these sites, including specialized activity areas (possible kill or butchering site), temporary camps, camps, habitations and villages. Ten sites or isolated occurrences are represented by single artifacts or light lithic scatters, and no information is available for six of the sites (Figure 26).

Three sites are located in the Zone 1 floodplain and include a Plains Woodland habitation site, a White Rock temporary camp and an unidentified occupation. Three sites are located on low oxbow terraces (Zone 2): a White Rock temporary camp, an unidentified habitation camp and an unidentified occupation.

Twenty sites are located on the Zone III first terrace including one Paleo-Indian, one possible Archaic, five Woodland, three Upper Republican, two Dismal River, two Historic Aboriginal and eight unidentified components. Represented are temporary camps, habitations and villages. Isolated artifacts or unidentified occupations are present at 11 sites.

Four unidentified sites are located on the Zone 4 footslopes. These sites represent three temporary camps and one unidentified occupation. Only two sites, both unidentified, were located in the Zone V Uplands and include an unidentified occupation and a special activity area (a possible kill or butchering site).

A distinct preference for utilizing the first terrace can be seen for most of the recognized prehistoric periods. The apparent exception to this is the White Rock sites, which are located on the floodplains and oxbow terraces closer to flowing water. This may be a reflection of site function.

From an environmental standpoint the location of sites along the first terrace is most indicative of the aboriginal use of the area. All of the aboriginal groups practiced foraging as a major subsistence economy. By situating the primary bases on the terraces, all available natural resources in the region are within a relatively close range. Dependable water supplies and floodplain flora and fauna are available as well as the upland resources.

Those sites not situated on the terraces intermediate between the floodplain and uplands may represent specialized or focal localities occupied

TABLE 2. ABORIGINAL SITES ALONG PRAIRIE DOG CREEK

Site No.	Distance to Water	Elevation	Zone	Cultural Temporal Types	Site Types
25HN146	100 meters	1947' MSL	III over I	Archaic (?) Woodlands	1 dart point, lithic scatter
25HN12	300 meters	1970' MSL	III	Woodland	habitation
25HN9	10 meters	1910' MSL	I	Woodland	habitation
25HN38	100 meters	1960' MSL	III	Woodland	habitation
25HN145	250 meters	1947' MSL	III over I	Woodland	lithic scatter
25HN59	350 meters	1947' MSL	III over I	Woodland	temporary camp
25HN11	200 meters	1947' MSL	III over I	Upper Republican	village
25HN54	1KM (present)	1947' MSL	III over I	Upper Republican	village
25HN55	1KM (present)	1947' MSL	III over I	Upper Republican	small habitation
25HN39	10 meters	1950' MSL	II	White Rock	temporary camp
25HN45	10 meters	1920' MSL	I	White Rock	temporary camp
25HN37	10 meters	1947' MSL	III over I	Dismal River Historical Aboriginal	village, 2 gunflints
25HN57	100 meters	1947' MSL	III over I	Paleo-Indian Dismal River	1 dart point, lithic scatter
25HN16	1KM (present)	1947' MSL	III over I	Historical Aboriginal	temporary camp
25HN13	200 meters	1910' MSL	I	Unidentified	no information
25HN42	350 meters	2000' MSL	IV edge of V	Unidentified	no information

TABLE 2. ABORIGINAL SITES ALONG PRAIRIE DOG CREEK (cont.)

Site No.	Distance to Water	Elevation	Zone	Cultural Temporal Types	Site Types
25HN49	10 meters	1920' MSL	II	Unidentified	no information
25HN55	350 meters	1947' MSL	III over I	Unidentified	lithic scatter
25HN58	300 meters	1947' MSL	III over I	Unidentified	no information
25HN60	10 meters	1960' MSL	III	Unidentified	no information
25HN62	20 meters	1947' MSL	III over I	Unidentified	no information
25HN144	20 meters	1947' MSL	III over I	Unidentified	lithic scatter
25HN162	300 meters	1947' MSL	III edge of V	Unidentified	temporary camp
25HN163	250 meters	1947' MSL	IV over I	Unidentified	lithic scatter
25HN171	1KM (present)	1947' MSL	III over I	Unidentified	isolated flake
25HN76	300 meters	1990' MSL	IV edge of V	Unidentified	temporary camp
Isolated Occurance 5	10 meters	1970' MSL	II	Unidentified	camp or habitation
25HN77	10 meters	1980' MSL	IV edge of III	Unidentified	camp
Isol. Occur. 6	30 meters	2010' MSL	V over II	Unidentified	lithic scatter
Isol. Occur. 7	30 meters	1980' MSL	V	Unidentified	activity area, hunting
Isol. Occur. 8	300 meters	1974' MSL	III over I	Unidentified	temporary camp

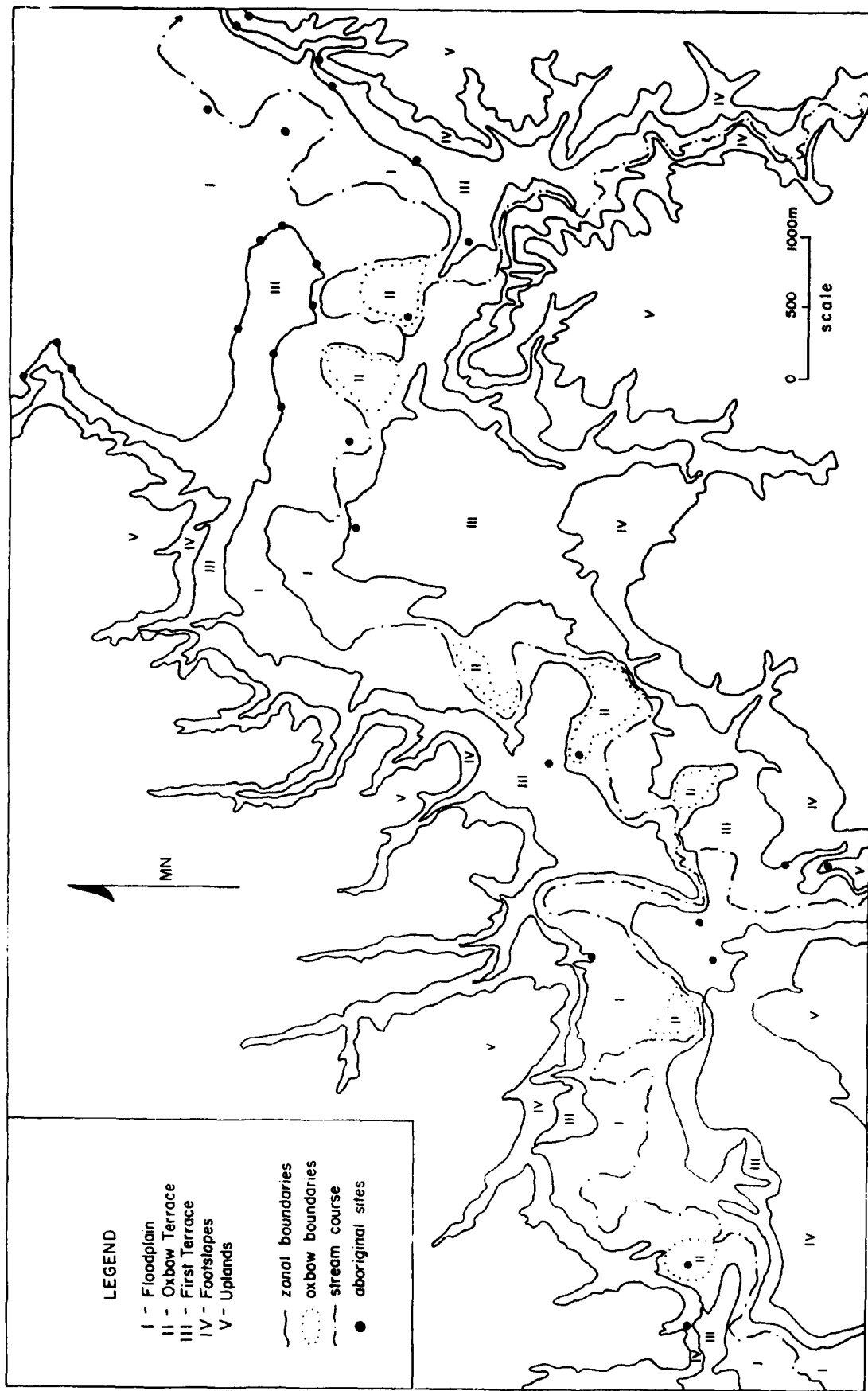


Figure 26. Environmental and Topographic Zones and Recorded Sites on Prairie Dog Creek.

for a specific purpose, such as Isolated Occurrence No. 7, believed to be a kill or butchering site. This site was most probably only occupied long enough to perform basic hunting chores.

Sites in the floodplains exhibit similar seasonal or temporary occupations since annual wet seasons tend to make such areas uninhabitable on a permanent basis. Hunting in such environments is best during the drier summer and fall months (see Schmits 1978:154-165) which coincides with the primary horticultural periods. Since both the Plains Woodland and White Rock peoples centered much of their subsistence on hunting and practiced limited horticulture, occupation of the floodplain on a seasonal basis seems likely.

It must be pointed out that floodplain deposits are generally deep and have been archaeologically examined by primarily surface reconnaissance. It may be and is probably the case, that a great deal more aboriginal activity and occupation took place in the bottomland than is shown by the recorded sites.

Previous surveys of the Harlan County Lake area (Pepperl and Falk 1979; Roetzel 1982) indicate that prehistoric inhabitants of the area tended to occupy certain topographic landforms more often and preferentially than others. Pepperl and Falk predicted, based on the results of their survey in 1977, that most of the cultural resource sites and isolated occurrences would be found on upland areas, with terrace utilization occurring with the next highest frequency. Bottomland areas were predicted to be essentially void of cultural resources.

Roetzel however, as a result of a survey of Harlan County Reservoir lands in 1979, found that the majority of sites in the area occurred on the first major terrace of the river system.

The sites and isolated occurrences discovered as a result of the present survey indicate that the terrace systems of the major tributaries were used most frequently. No upland sites were found within the areas surveyed along the Prairie Dog Arm of the Republican River, or in the rest of the survey area. No bottom land sites were encountered.

The present survey was restricted to a great extent by the locations of the proposed waterfowl ponds within the bottomlands of the tributaries to the Republican River and other major drainages to the Republican. Only a small percentage of the uplands were surveyed, which could account for the lack of sites discovered in this topographic zone. However, the fact that the discovered sites were all found on the terrace systems of either the Republican River or major drainages to the river, indicates the preference of this topographic landform.

CHAPTER 6

SUMMARY AND CONCLUSIONS

The archaeological survey of 13 proposed waterfowl ponds and a 12 percent sample area of the Prairie Dog Arm of Harlan County Lake, Nebraska, located six archaeological sites and eight isolated occurrences.

The majority of the sites were located on the first terrace above the stream or river bed and included villages, camps, temporary habitations, and isolated artifact finds. Although no sites were located in the uplands the settlement patterns seem to conform to previously devised models in other respects.

Based on this information sensitivity zones were established for the unsurveyed portions of the Prairie Dog Arm of Harlan County Lake which target specific areas of expected site locations.

The data collected indicates a distinct preference towards the terrace systems by aboriginal inhabitants. The exact terrace (first, second, etc.) cannot be delineated in all circumstances, because portions of previous terraces may have been removed by river action and bank-cutting. However, site locations tend to be oriented toward the first available terrace nearest the water supply. In the Prairie Dog Creek area, it is obvious that terraces next to relic oxbows were utilized as places of encampment, as were terraces of the river and feeder streams (i.e. Walnut Creek). For this reason, future construction activities on these landforms should be undertaken only after the area has been cleared by an archaeological survey.

Points of land in the upland areas near water sources should also be examined, although the present survey did not encounter any cultural remains in these locations. However it is possible that the upland areas will contain cultural resources which may not be visible on the surface, and which may have been missed by shovel tests and cut banks. Care should be taken during construction in the event that cultural material is encountered below the surface.

Most of the areas in the bottomlands of Harlan County Lake are devoid of cultural resources, or are covered by lake waters. For these reasons, construction in the bottomlands should be allowed to proceed. No sites were found in the bottomlands during the survey. However, it should be mentioned again that construction personnel should not use terrace systems and points of land overlooking water sources for construction access.

Assuming the recorded sites on Prairie Dog Creek reflect aboriginal occupation of the area (Table 3), the following conclusions can be drawn:

1. The first terrace zone was routinely selected for base camps and village sites.

TABLE 3. PREDICTIVE SITE TYPES ALONG PRAIRIE DOG CREEK
(As based on present data - known sites)

Zone	Resources	Site Types/ Activities	Cultural/ Indications	Temporal
I. Floodplain	Mixed flora timber, marine species, small game, deer, fertile soil.	Activity areas, temporary camps, seasonal habitation.	Undiagnostic lithic and bone scatter sites with specialized tools, limited habitation middens.	Unidentified, Woodland White Rock.
II. Oxbow Terraces	Mixed flora timber, marine species, small game, deer fertile soil.	Activity areas, temporary camps, seasonal habitation.	Undiagnostic lithic and bone scatter sites with specialized tools, limited habitation middens.	Unidentified, White Rock.
III. First Terrace developments	Mixed grasses, shrubbery, small game, deer, antelope, shallow fertile soils.	Activity areas, camps, habitation, villages, ossuaries.	Undiagnostic lithic and bone scatters, large artifact concentrations, village middens, house sites, graves.	Paleo-Indian, Archaic, Woodland, Upper Republican, Dismal River, Historical Aboriginal, Unidentified.
IV. Footslopes	Mixed grasses, lithic resources, small game, antelope, loess outcrops.	Activity areas, temporary camps, camps, ossuaries.	Undiagnostic lithic and bone scatter sites with specialized tools and remains, limited camp middens, graves.	Unidentified.
V. Loess Uplands	Short grasses, large game, carnivores, loess.	Activity areas, temporary camps, ossuaries.	Undiagnostic lithic and bone scatter sites with specialized tools and remains, limited camp middens, graves.	Unidentified.

2. These camps and villages were situated so as to take full advantage of the range of resources available and to serve as bases for both foraging and horticultural activities.
3. The smaller sites in the floodplains and uplands were either temporarily or seasonally occupied for specific subsistence activities relating to the base camps and villages.
4. This pattern persisted throughout the prehistoric and proto-historic periods.
5. As a predictive model, these assumptions apply to the Prairie Dog Creek area but may also apply to the other similar environs along the Republican River Drainage.

GLOSSARY OF TERMS

Aboriginal - Pertaining to the Native American populations prior to Historic settlement.

Activity area - A place or location where a specific activity or task took place such as lithic procurement, a kill/butchering site, etc.

Alluvium - Soil, sand, gravel, or similar detrital material deposited by running water.

Arrowhead - Any projectile point that is believed to have been used on an arrow because of its size and weight.

Band - A small group of aboriginal people living together, usually an extended family of from five or ten to twenty people.

Camp - A place which is temporarily or seasonally occupied by a band or small group.

Chopper - A generally large, rough shaped stone with one sharpened cutting edge.

Chronology - Sequential ordering of archaeological cultures.

Colluvium - Sand, silt and gravel deposits as outwash from water action, often associated with glacial flooding and erosion of higher places.

Component - A culturally recognizable unit, artifact or group of artifacts, attributable to a specific time or group.

Core Tool - A scraping or cutting tool made from an expended core, generally one utilized edge of a roughly shaped core.

Cortex - The original geologically weathered surface of a stone before flakes were removed.

Cryptocrystalline - A rock having a crystalline structure so fine that no distinct particles are recognizable without aid of a microscope.

Cultural Expression - Indications of a particular group of people or activity recognizable by the artifacts left behind.

Dart Point - Any projectile point that is believed to have been used on a javelin or throwing spear because of its size and weight.

Developed Valley - A stream course channel with a meandering stream and distinct marginal terraces developed through long term erosion and stream flow.

Diagnostics - The artifacts at archaeological sites which are typical or recognizable to a particular group of people or activity.

First Terrace Developments - The line of first high ground immediately adjacent to flowing streams which are formed by stream cutting and upland slope erosion.

Flake - Any piece of stone removed from a larger mass by force.

Focus - A temporally distinct culture within a relatively defined regional area.

Foraging - An aboriginal economy of hunting, fishing and gathering plant foods for subsistence.

Gunflint - A relatively square or rectangular piece of chert or flint which is assumed to have been used in the sparking mechanism of a flintlock firearm.

Habitation - A place which was intensely occupied on at least a seasonal basis by an individual or group of people, most often includes a semi-permanent or permanent structure as living quarters.

Hamlet - A small cluster of habitation sites in a definable area.

Horticulture - The planting, tending and harvesting of plant foods.

House - Structure erected as living quarters.

Isohyet - Relating to or indicating equal rainfall on a map or chart.

Lithic Scatter - Any area that contains flaked stone artifacts in a concentration less than that which defines a site.

Loess - Windblown glacial dust which makes up the upland-plains area of the central Plains. In the Harlan County area loess deposits vary from 3 or 4 feet to over 40 feet in thickness over bedrock of shale and limestone.

Mature Stream Bed - A flowing stream course which has reached maximum stability and drainage efficiency, having surpassed the erosional and gradient stages. In the project area streams with mature beds have low gradients and are slow moving through wide meander courses.

Nomadism - A way of life involving the frequent movement of peoples in pursuit of game and other resources.

Ossuary - Specialized burial site of varying size into which the dismembered remains of several or many individuals were placed often along with an assortment of grave goods.

Period - A segment of time associated with a number of cultures in a similar stage of cultural development; Paleo-Indian, Archaic, Woodland, Plains Village, Historic Aboriginal, etc.

Preform - An artifact in a stage of manufacture beyond the initial trimming of a cobble or quarried piece and before being recognized as a completed tool form.

Primary Flake - Any flake that retains any amount of cortex on its dorsal surface.

Research Design - A written plan detailing proposed archaeological investigations and usually addressing technical approach and detailing research questions to be addressed.

Scraper - An implement with a broad steep-edged tool bit used for scraping one substance from another, such as bark from logs and membrane from animal skins.

Subsistence - The method of procuring and processing food.

Terrace - An extent of higher ground above and adjacent to a lower area closer to a stream.

Tertiary Flake - Any flake of stone that retains no evidence of the original preflaking exterior surface (Cortex).

Village - An aggregation of houses or living sites within a definable community area, larger than a hamlet.

BIBLIOGRAPHY

- BINFORD, L.**
 1980 Willow Smoke and Dogs' Tails: Hunter - Gatherer Settlement Systems and Archaeological Site Formation. American Antiquity, Vol. 45 No 1, pp 4-20.
- BRISCOE, J.**
 1979 Appendix II. Oklahoma Lithic and Lithic Resource Areas in Oklahoma Highway Archaeological Survey 1972-79, Papers in Highway Archaeology, No. 6.
- CARLSON, G.**
 1971 A Local Sequence for Upper Republican Sites in the Glen Elder Reservoir Locality, Kansas. M.A. Thesis, Department of Anthropology, University of Nebraska.
- CHAMPE, J.**
 1946 Ash Hollow Cave, A Study of Stratigraphic Sequences in the Central Great Plains. University of Nebraska Studies, No. 1.
 1949 White Cat Village. American Antiquity, Vol 14, No 4, pp 285-291.
 1950 Archaeological Investigations in the Harlan County Reservoir. Monograph on file, National Parks Service, Midwest Archaeological Center, Lincoln.
- DUNLAY, T.**
 1979 Appendix B. Harlan County Reservoir Area: An Historical Summary in: Management Plan for Cultural Resources Within the Harlan County Lake Area, Nebraska by R. Pepperl and C. Falk. Monograph on file, U.S. Army Corps of Engineers, Kansas City District, Kansas City.
- FALK, C. and THIESSEN, T.**
 1972 A Reappraisal of the Archaeological Resources of the Harlan County Lake Area, Nebraska. Monograph on file, Natural Parks Service, Midwest Archaeological Center, Lincoln.
- FRISON, G.**
 1978 Prehistoric Hunters of the High Plains. Academic Press, New York.
- GRANGE, R.**
 1980 Archaeological Investigations in the Red Willow Reservoir. Nebraska State Historical Society Publications in Anthropology, No. 9.
- GUNNERSON, J.**
 1950 The Dismal River Aspect. MA Thesis, Department of Anthropology, University of Nebraska.

- 1960 An Introduction to Plains Apache Archaeology—the Dismal River Aspect. Bureau of American Ethnology, Bulletin 173, Anthropological Papers, No. 58.
- 1968 Plains Apache Archaeology: A Review. Plains Anthropologist, Vol. 13, No. 41, pp 167-199.
- HAPP, S.
1948 Geology of the Harlan County Dam, Republican River, Nebraska. Geological Society of America Bulletin, Vol. 59, No. 12, pp. 1328-1329.
- HILL, A. and KIVETT, M.
1940 Woodland-like Manifestations in Nebraska. Nebraska History, Vol. 21, No. 3, pp. 143-243.
- HOLDER, P. and WIKE, J.
1949 The Frontier Culture Complex, A Preliminary Report on a Prehistoric Hunter's Camp in Southwestern Nebraska. American Antiquity, Vol. 14, No. 4, pp. 260-266.
- JENNINGS, J.
1968 Prehistory of North America. McGraw-Hill, New York.
- KING, J.
1963 War Eagle. A Life of General Eugene S. Carr. University of Nebraska Press, Lincoln.
- KIVETT, M.
1947a Preliminary Appraisal of the Archaeological and Paleontological Resources of the Harlan County Reservoir, Nebraska. Monograph on file, National Parks Service, Midwest Archaeological Center, Lincoln.
- 1947b The Harlan County Reservoir Technological Report. Monograph on file, National Parks Service, Midwest Archaeological Center, Lincoln.
- 1950 Archaeology and Climatic Implications in the Central Plains. Proceedings of the Sixth Plains Archaeological Conference, 1948. Anthropological Papers, Vol. 11, pp. 88-89.
- 1952 Woodland Sites in Nebraska. Nebraska State Historical Society Publications in Anthropology, No. 1.
- 1953 The Woodruff Ossuary, a Prehistoric Burial Site in Phillips County, Kansas. Bureau of American Ethnology Bulletin, Vol. 154, River Basin Survey Paper, No. 3.

- 1970 Early Ceramic Environmental Adaptations in: Pleistocene and Recent Environments of the Central Great Plains. Dort and James, eds. Department of Geology, University of Kansas Special Publication, No. 3.
- KIVETT, M. and HOLDER, P.
1949 Paleontological and Archaeological Investigations during 1948 by the University of Nebraska State Museum in the Reservoir Area of the Republican River Drainage. Monograph on file, National Parks Service, Midwest Archaeological Center, Lincoln.
- KRAUSE, R.
1969 Correlation of Phases in Central Plains Prehistory in: Two House Sites in the Central Plains: An Experiment in Archaeology. Wood, ed. Plains Anthropologist, Memoir 6, pp. 82-96.
- 1970 Aspects of Adaptation Among Upper Republican Subsistence Cultivators in: Pleistocene and Recent Environments in the Central Great Plains. Dort and James, eds. Department of Geology, University of Kansas Special Publications, No. 3.
- LEONHARDY, F.
1966 Domebo: A Paleo-Indian Mammoth Kill in the Prairie-Plains. Contributions of the Museum of the Great Plains, No. 1.
- LIPPENCOTT, F.
1978 The Central Plains Tradition: Internal Development and External Relationships. Blakesler, ed., Office of the State Archaeologist, University of Iowa, Report, No. 11.
- MILLER, R. and others
1964 Geology of Franklin, Webster and Nuckolls Counties, Nebraska. U.S. Geological Survey Bulletin, No. 1165.
- MITCHELL, L., BOWMAN, G., and YOST, D.
1974 Soil Survey of Harlan County, Nebraska United States Department of Agriculture, Soil Conservation Service, Washington, D.C. U.S. Government Printing Office.
- OPLER, M.
1982 The Scott County Pueblo Site is Historical, Archaeological, and Ethnological Perspective in: Pathways to Plains Prehistory: Anthropological Perspectives of Plains Natives and Their Pasts. Oklahoma Anthropological Society, Memoir 3. Oklahoma City.
- PEPPERL, R. and FALK, C.
1978 Background Data, Harlan County Lake, Nebraska. Monograph on file, U.S. Army Corps of Engineers, Kansas City District, Kansas City.

- 1979 Management Plan for Cultural Resources Within the Harlan County Lake Area, Nebraska. Monograph on file, U.S. Army Corps of Engineers, Kansas City District, Kansas City.
- PORTER, J.
1962 Notes on Four Lithic Types Found in Archaeological Sites near Mobridge, South Dakota. Plains Anthropologist, Vol. 7, No. 18, pp. 267-269.
- ROETZEL, K., et. al.
1981 Intensive Archaeological Reconnaissance and Site Testing for the National Register of Historic Places, Harlan County Lake, Harlan County, Nebraska. Monograph on file, U.S. Corps of Engineers, Kansas City District, Kansas City.
- 1982 Intensive Archaeological Survey and Site Testing for the National Register of Historic Places, Harlan County Lake, Harlan County Nebraska. Monograph on file, U.S. Corps of Engineers, Kansas City District, Kansas City.
- ROLL, T.
1968 Upper Republican Cultural Relationships, M.A. Thesis, Department of Anthropology, University of Nebraska.
- RUSCO, M.
1960 The White Rock Aspect. Laboratory of Anthropology, University of Nebraska. Notebook No. 4.
- RUSSELL, D.
1960 The Lives and Legends of Buffalo Bill. University of Oklahoma Press, Norman.
- SCHLESIER, K.
1972 Rethinking the Dismal River Aspect and the Plains Athabaskins, A.D. 1692-1768. Plains Anthropologist, Vol. 17, No. 56, pp. 101-133.
- SCHMITS, L.
1978 The Coffey Site: Environment and Cultural Adaptation at a Prairie Plains Archaic Site. Mid-Continent Journal of Archaeology, Vol. 3, No. 1, Special Paper No. 1.
- STRONG, W.
1933 Plains Culture in the Light of Archaeology. American Anthropologist, Vol. 35, No. 2, pp. 271-287.
- 1935 An Introduction to Nebraska Archaeology. Smithsonian Miscellaneous Collections, Vol. 93, No. 10.

THOMAS R. (ed.)

1975 Lithic Source Notebook. Historical Commission Special Papers,
Delaware State, Milford.

WEDEL, W.

1940 Cultural Sequence in the Central Great Plains. Smithsonian
Miscellaneous Collection, Vol. 100, pp. 291-352.

1941 Environment and Subsistence Economies in the Central Great Plains.
Smithsonian Miscellaneous Collections 101(3).

1953a Prehistory and the Missouri Development Program: Summary. Report
on the Missouri River Basin Archaeological Survey in 1948. Bureau of
American Ethnology Bulletin, Vol. 154, River Basin Survey Papers,
No. 1.

1953b Some Aspects of Human Ecology in the Central Plains. American
Anthropologist, Vol. 55, pp. 499-514.

1959 An Introduction to Kansas Archaeology, Bureau of American
Ethnology Bulletin, Vol. 174.

1961 Prehistoric Man on the Great Plains, University of Oklahoma Press,
Norman.

1977 Plains Archaeology in 1977. Great Plains Journal

WILLEY, G. and PHILLIPS, P.

1958 Method and Theory in American Archaeology. University of Chicago
Press, Chicago.

WITTHOFT, J.

1966 A History of Gunflints. Pennsylvania Archaeologist, Vol. 36, Nos. 1-
2.